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ABSTRACT

This book shows the relationship of the Ohio Consortium Elementary Teacher Education Model (ED 025 456 and ED 025 457) to the Multi-unit school by summarizing development of the model (by the Ohio Consortium of State Universities of Ohio) and describing its implementation in a multi-unit school (Martin Luther King, Jr., in Toledo). The model (which considers all phases of teacher education from the initial preservice training of prospective teachers through the inservice training of those presently in elementary education, as well as all groups of educational personnel actively involved in the education, induction, and support of new teachers) is described through outlining its various developmental phases: 1) Phase 1--including development of general goals for teacher education, behavioral objectives, and educational specifications, and 2) Phase 2--the feasibility study in which the model was found to be feasible in all respects. The section of implementation of the model includes explanation of a multi-unit organization (which utilizes the concept of a differentiated staff) and description of the role of the principal, and three components of general organization (system-wide policy council, steering committee, and the unit), inservice education, planning time, student teaching, and teacher supervision. Appended are a checklist for schools starting a multi-unit program, sample weekly schedules, and a 90-item bibliography. (JS)

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The Ohio Model and The Multi-Unit School

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FOREWORD

This work represents an effort to show the relationship of the Ohio Consortium Innovative Teacher Education Model to the Multi-unit school. Approximately three years ago, both developmental research efforts were in their infancy in Toledo. Today, both exist because of the tireless efforts of many people but, like all efforts of this kind, more needs to be done. However, enough has been demonstrated that the "workers in the vineyard" are encouraged that competency-based education can become a realization in elementary teacher education if cooperative activities are developed between university and public schools, especially in the creation of multi-unit schools such as Martin Luther King, Jr. in Toledo. Simply stated, the Consortium Model provides the process of elementary teacher education while the multi-unit school provides the lab where experiences are acted out.

To generate an effort as extensive as the three volume Ohio Consortium Model, a wide range of talents had to be mobilized. If the reader is so inclined he can read the total manuscript, which was organized by Dr. George E. Dickson, Dean, College of Education, The University of Toledo. Dean Dickson wrote many sections of the original manuscript and was assisted by Dr. Richard Saxe who edited the materials which have provided basic inputs for Part I of this monograph. Readers desiring other project information are directed to the 1969 issue of **Educational Comment,** also edited by Dr. Saxe and published by the College of Education at The University of Toledo. This document summarizes the Model development effort. Other contributors to the total project include Dr. William Wiersma, Dr. Thomas Gibney, Dr. Michael Kirst, Dr. Richard Ishler, Dr. Dean Meinke, Dr. Robert Judd, and Dr. Gregory Trzebiatowski and many others who helped complete tasks which sometimes seemed impossible. A special note of thanks is extended to the Toledo Public School administration, and especially to the faculty, children, and parents at the King school who were patient. Lastly, to those of the Wisconsin R & D Center who had faith in an idea.

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PART I
DEVELOPING THE MODEL — PHASE I*

The purpose of the multi-phase U.S. Office of Education, Bureau of Research, Teacher Education project was the production, development and implementation of model programs for the training of elementary school teachers. The project began in October, 1967, when the Bureau of Research issued a request for proposals in Phase I to develop educational specifications for the various components of a model elementary teacher education program. The second phase of the multi-phase project was to study the feasibility of these model programs with the third phase becoming the eventual implementation and operation of the model programs.

Some eighty Phase I proposals were submitted to the U.S. Office of Education; nine of these proposals were funded. The nine institutions receiving funds were as follows:

1. The University of Pittsburgh
2. Teachers College, Columbia University
3. Florida State University
4. The University of Georgia
5. Michigan State University
6. Syracuse University
7. University of Massachusetts
8. The Northwest Regional Laboratory
9. The Consortium of State Universities of Ohio

The Ohio model[1] was the result of the Phase I effort by the Consortium of State Universities of Ohio and other cooperating agencies (see Figure 1). The model considered all phases of teacher education from the initial pre-service training of prospective teachers through the in-service training of those presently in elementary education, as well as all groups of educational personnel who are actively involved in the education, induction

*Adapted from George E. Dickson and Dennis E. Hinkle, "A Study of the Feasibility of the Ohio Teacher Education Model," appearing in **Journal of Research and Development in Education,** Vol. 3, No. 3, Spring, 1970, 56-57. With permission of publisher, College of Education, University of Georgia, Athens, Georgia 30601.

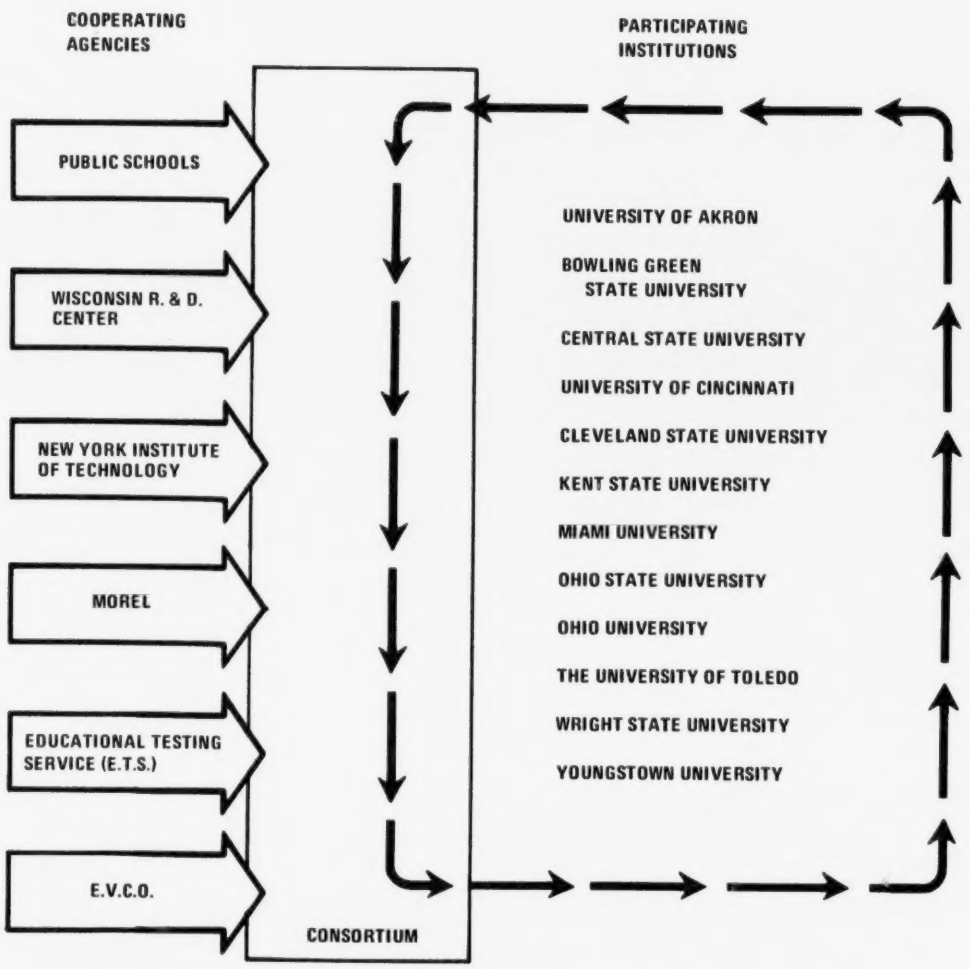
1. George E. Dickson, et. al., **Educational Specifications for a Comprehensive Elementary Teacher Education Program, Volume I, The Basic Report** and **Volume II, The Specifications.** Toledo, Ohio: Research Foundation, The University of Toledo, 1968.

and support of new teachers. The Ohio Consortium isolated six different groups and called these groups the major target populations. These populations are as follows:

1. Pre-service — pre-school and kindergarten teachers
2. Pre-service — elementary teachers (Grades 1 thru 8)
3. In-service teachers
4. College and university personnel
5. Administrative personnel
6. Supportive personnel (paraprofessionals and teacher aids)

The Ohio model reflects the point of view that any new and challenging teacher education program should result in change

FIGURE 1
THE ORGANIZATIONAL STRUCTURE FOR IMPLEMENTING
THE TEACHER EDUCATION PROGRAMS DETERMINED
BY THE SPECIFICATIONS



and innovation in the elementary school setting where the model is applied and where the teacher-to-be will seek employment. Therefore, very early in the Phase I effort, the project staff of the Ohio Consortium abandoned the concept of preparing teachers for the traditional elementary self-contained classroom. The concept adopted was that of preparing teachers for the multi-unit elementary school organization, a concept developed principally by the Wisconsin Research and Development Center for Cognitive Learning. The design of the Ohio model was thus directed toward the preparation of teachers for what the project staff considered to be the school of the future; a school utilizing the team teaching and differentiated staff approach.

The Phase I effort by the Ohio Consortium involved five steps. The first of these involved the statement of general goals for teacher education. The statement of goals adopted and adapted by the Ohio Consortium was developed by the committee on quality education of the Pennsylvania State Board of Education. The ten goals[2] were as follows:

1. Each teacher should be prepared to employ teacher behaviors which will help every child acquire the greatest possible understanding of himself and an appreciation of his worthiness as a member of society.

> "Self-understanding should increase as the child matures. That is, he should become increasingly aware of his strengths and weaknesses, his values and interests, and aspirations, so that the decisions he makes about his educational occupational future will be informed, reasonable, and rational. He should be helped to know the strengths in himself that he should exploit and the weaknesses that he should try to overcome or that he must learn to live with.
>
> "On the other hand, regardless of the level and pat-

2. The statement of goals appearing in this report has been altered slightly from the original for our purposes but the rationale for each goal statement is quoted verbatim. The Committee on Quality Education was made up of members of the Pennsylvania State Board of Education who contracted the project to the Educational Testing Service. Experts in the behavioral sciences from all over the country constituted a Standing Advisory Committee for the project. A three volume report entitled **A Plan for Evaluating the Quality of Education Programs in Pennsylvania,** Educational Testing Service, Princeton, New Jersey, 1965, describes the development of the goals, the goals, and how the goals were evaluated.

tern of his particular talents, the school experience should be such that it will strengthen, not damage, his self-esteem. The school should be operated in such a way that children at all levels of talent can achieve a growing awareness of their worth as persons in a society that claims to have an equality of concern for all its members."

2. Each teacher should be prepared to employ teacher behaviors which will help every child acquire understanding and appreciation of persons belonging to social, cultural, and ethnic groups different from his own.

"The school experience should be such that the child will learn to respect and achieve an easy interaction with children who differ from him in physical characteristics (e.g., skin color), in speech, and degree of intellectual competence."

3. Each teacher should be prepared to employ teacher behaviors which will help every child acquire to the fullest extent possible for him mastery of the basic skills in the use of words and numbers.

"These basic skills fall into four broad categories: (a) the ability to acquire ideas through reading and listening, (b) the ability to communicate ideas through writing and speaking, (c) the ability to handle mathematical operations, (d) the ability to reason logically and to respect evidence. The level of performance that can be reasonably expected in each of these areas will vary from child to child. However, since a civilized society depends crucially upon the verbal and mathematical literacy of its members, it is of profound importance that the level of expectation in these matters for any child shall not be underestimated or regarded as fixed and that every effort be made to give him the mastery he needs to function effectively."

4. Each teacher should be prepared to employ teacher behaviors which will help every child acquire a positive attitude toward school and toward the learning process.

"The school experience should be such that the child

finds the learning activities associated with it enjoyable and rewarding to the point that he is motivated to do well and to continue learning on his own initiative beyond the requirements of formal education. Everything possible should be done to ensure that the attitude of the teacher, the atmosphere of the school, and its physical condition shall contribute toward this end, so that the individual, both as a child and later as an adult, will hold education high among his values."

5. Each teacher should be prepared to employ teacher behaviors which will help every child acquire the habits and attitudes associated with responsible citizenship.

"Of first importance among such habits and attitudes are (a) loyalty to the fundamental principals of a free democratic society as expressed through a readiness to defend its institutions, to bring rational criticism to bear on their defects, and to work for changes leading to their improvement, (b) effective participation in group activities by assuming the role of a leader or a follower as appropriate, (c) appreciation and acceptance of the necessity for earning a living, (d) acceptance of the basic ethical values that make group living possible — values characterized by such terms as honesty, fair dealing, and compassion for the less fortunate."

6. Each teacher should be prepared to employ teacher behaviors which will help every child acquire good health habits and an understanding of the conditions necessary for the maintenance of physical and emotional well-being.

"In his own interest as well as in the interest of society at large, a child should know how to take care of himself and how to keep himself physically fit. He should know what the requirements are for physical and mental health and what practices, harmful to health, should be avoided. Mere knowledge of these matters, however, is not sufficient. In cases where the home has been deficient in encouraging the child to practice sound health habits, the school has an obligation to be aware of the situation and to see that opportunity for remedying the deficiency is provided."

7. Each teacher should be prepared to employ teacher behaviors which will help every child acquire opportunity and encouragement to be creative in one or more fields of endeavor.

> "The notion of creativity has been variously defined. It is being used here to encompass worthwhile activities that a child initiates and pursues on his own — activities having an outcome that is perceived by the child himself and by others as a contribution to some part of his world. Such activities can be included in a wide variety of fields, not only the sciences and the arts but also the organization of human affairs and the development and exercise of saleable skills in the production of any of a host of practical things that enrich our way of living."

8. Each teacher should be prepared to employ teacher behaviors which will help every child understand the opportunities open to him for preparing himself for a productive life and should enable him to take full advantage of these opportunities.

> "This goal implies that most children can profit from some form of education beyond high school, whether it be at a four-year college, a school of nursing, a community college, a technical institute, or the like. The youngster should be aware of these opportunities and seek out the particular kind of education best suited to his talents and interests. This goal also implies that the school will provide the child with the kind of guidance that will enable him to do so.
>
> "Furthermore, the school should help him discover the practically unlimited possibilities for continuing self-development both in the world of work and in the world of the mind so that he will be motivated to pursue excellence in all the forms of human endeavor that are appropriate for him."

9. Each teacher should be prepared to employ teacher behaviors which will help every child understand and appreciate as much as he can of human achievement in the natural sciences, the social sciences, the humanities, and the arts.

"Insofar as possible, every child should gain from his school experience an increasing openness to the life of the mind and an increasing ability to find meaning for his own life in the heritage of the past and in the intellectual thrusts of the present age. He should achieve some understanding of the transforming conceptions of modern science. He should achieve increasing mastery over the basic principles of social and psychological sciences. He should develop a degree of sensitivity that enables him to differentiate the worthy from the worthless in the multifarious products of civilization as we know it — books, motion pictures, radio, television, music, and the visual and performing arts, architecture, industrial design, and the like."

10. Each teacher should be prepared to employ teacher behaviors which help every child to prepare for a world of rapid change and unforeseeable demands in which continuing education throughout his adult life should be a normal expectation.

"The explosion in knowledge, the impact of science on the economy, the almost unpredictable nature of the job market for both the short term and the long term, the increase in opportunity for leisure-time activities— all these developments make it apparent that education, if it is to fulfill the life-long needs of the individual and the future needs of society, cannot stop at grade 12 or grade 14 or grade 16. Such continuing education may take many forms: it may be self-education, it may be formally organized retraining, it may be adult classes of a recreational nature. Whatever the form, it must be regarded as an essential of an individual's activity through his adult life if he is to keep up to date as a worker, as a person."

The second step was the examination of these goals in relation to five primary contexts in order to provide for the transformation of the general goals into more specific behavioral objectives. An initial assumption was that five conditions of life and education were of major importance and must be considered in the formulation of a program of teacher education. These conditions named "context" were:

1. Instructional Organization

2. Educational Technology
3. Contemporary Learning-Teaching Process
4. Societal Factors
5. Research

These five contexts represent the more important sources of change in teacher education programs (see Figure 2). An authority in each of the contexts prepared a position paper on his topic while other knowledgeable people in each of the contexts read and reacted to these papers. Position papers were prepared by the following persons:

Position paper on Instructional Organization
Dr. Herbert J. Klausmeier, Professor of Educational Psychology and Director, Wisconsin Research and Development Center for Cognitive Learning, University of Wisconsin.

Position paper on Educational Technology
Dr. Gregory Trzebiatowski, Associate Professor of Education, The Ohio State University.

Position paper on Contemporary Teaching-Learning Process
Dr. Nathaniel L. Gage, Professor of Education and Psychology and Co-Director, Stanford Center for Research Teaching, Stanford University.

Position paper on Societal Factors
Dr. Jean D. Grambs, Professor of Education, University of Maryland.

Position paper on Research
Dr. Donald Medley, Head, Teacher Behavior Research Group, Educational Testing Service.

Reactions were supplied by the following persons:

Reaction on Instructional Organization
Dr. William Wiersma, Jr., Professor of Education and Director, Center for Educational Research and Services, The University of Toledo.

Reaction on Educational Technology
Dr. Robert Marker, Vice President, Management Information Services, Westinghouse Learning Corporation.
Dr. Alexander Schure, President, New York Institute of Technology.

FIGURE 2
SPECIFICATION MATRIX

POPULATIONS	Instructional Organization	Educational Technology	Comtemporary Teaching-Learning Process	Societal Factors	Research
Supportive					
Administrative					
College and University					
In-Service					
Elementary					
Pre-School					

CONTEXTS

Reaction on Contemporary Learning-Teaching Process

Dr. William L. Franzen, formerly Professor of Education, The University of Toledo, now Dean, School of Education, University of Missouri, St. Louis.

Dr. Lloyd Homme, Behavioral Technology Department, Westinghouse Research Laboratory, Albuquerque.

Reaction on Societal Factors

Dr. Edward J. Nussel, Professor of Education, The University of Toledo.

Reaction on Research

Dr. Frederick R. Cyphert, Dean, College of Education, The University of Virginia.

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This first assumption, that the five contexts must be considered, lead to the formulation of additional assumptions as each context was studied in its turn. These assumptions follow.

Instructional Organization. Any teacher education program based upon the specifications developed during Phase I would be orientated to training teachers for a team teaching type of instructional organization. Specifically, the team teaching instructional organization will be designed on the basis of the Research and Instruction Unit (R & I Unit) organization for teaching in a multi-unit school. The basic assumption here is that if teachers are going to teach in multi-unit organizations they should receive their corresponding training in connection with this type of organization. The training program also assumes that instruction in the elementary school will not be limited to traditional group activities but rather to include individually guided education. It is essential for the teacher to have proficiency in dealing with such programs. Relative to this, not only is it assumed that teachers will be prepared to provide individually guided education for elementary school pupils, but also, it is essential that there be a system of individually guided education in the teacher education program, especially those portions of the program dealing with pre-service and in-service populations.

Educational Technology. Another assumption is that the development of technology, specifically as related to education, will have a major impact upon teaching in the elementary school. Therefore, it is necessary to train teachers accordingly. In too many elementary school classrooms there has been insufficient use of the products of educational technology, but this is changing. Through the use of videotape and educational television, the technique called microteaching for developing teaching skills and teacher self-analysis has been created. Another consideration among many related to technology, is that the computer will find increasingly more usage in the elementary classroom, and that teachers should have facility in dealing with computer assisted instruction. Whether or not within a very few years substantial numbers of teachers will, in fact, be heavily involved in computer assisted instruction is irrelevant for the purposes of the specifications. The basic assumption here is that computer assisted instruction, which may take various forms, will be a major force in the elementary school. It merits attention in any teacher education program.

Contemporary Learning-Teaching Process. The assumption related to the learning-teaching process is that there now exists a great deal of information about the learning process that is not being effectively incorporated into teacher education programs. The approach used in developing the collection of specifications is behavioral in orientation. What this does is put the emphasis upon the outcome, behavior, and the overt operational procedures and techniques by which a specific behavior can be elicited. Any teacher education program based on the specifications would have this orientation.

Societal Factors. Another assumption underlying the specifications is that each teacher must be keenly aware of cultural differences which have an effect upon the educational setting. The generally traditional approach of training all teachers with a single, middle class, highly structured orientation to the learner is no longer feasible in a multi-cultural and dynamic society. Therefore, the specifications put considerable emphasis on preparing the teacher to deal with cultural and societal factors which have an impact upon the usual classroom learning situation.

Research. The identification of research as a context by itself was motivated by the assumption that if teacher education as a field and teacher education programs specifically are to be viable, dynamic and effective, it is necessary that research findings and techniques be utilized both in the program and by the teacher after completing the program. Rather than a traditional, **a priori** approach to teaching and teacher education, the specifications reflect a more empirical and research oriented approach. A teacher educator who operationally ignores research findings would be out-of-place within a program based on the specifications.

The third step in the Phase I effort was the preparation of behavioral objectives. The preparation of behavioral objectives was a crucial step in the progression from general goals of teacher education to the end product of particular educational specifications. The preparation of behavioral objectives was a task made necessary by the early decision to design a program which could be evaluated—one with goals which could be evaluated by observable, measurable changes in behavior. The behavioral objectives make this possible and serve as a basis for structuring the educational specifications. The behavioral objectives were a result of the combined efforts of the project staff,

consultants, and an independent consultant agency, EVCO, Basic Instructional Research Design in Albuquerque, New Mexico. The consultants and staff provided the knowledge of the content and EVCO provided expertise to translate this knowledge into the form of behavioral objectives. This productive partnership originally generated 2,123 objectives.

Because of the desire to develop a comprehensive program, the behavioral objectives were prepared for thirty cells of the Matrix. In so doing, all six target populations concerned with teacher education within the five contexts would be included. The process at EVCO provided a breakdown of each context into major subject areas which were further divided into topics. Behavioral objectives were then prepared for each topic (see Figures 3 and 4).

The fourth step was the creation of educational specifications incorporating the behavioral objectives for each of the six previously mentioned target populations. Each educational specification contains the behavioral objective or objectives to be considered, the treatment (methods and activities) desired to achieve the objective(s), the educational materials needed for the treatment, and the appropriate evaluation technique(s) necessary to determine if the behavioral objective(s) is/are achieved. (A sample specification is offered for reader observation: See Figure 5.) All of the parts of each specification were related to a particular context, subject area, topic and target population. Because of the overlap, 818 specifications were able to accommodate the over 2,000 behavioral objectives. Specifications were prepared by the project staff, personnel from the Wisconsin Research and Development Center for Cognitive Learning, University of Wisconsin, MOREL (Michigan Ohio Regional Educational Laboratory) and consultants.

The final step in the Phase I effort brought together these 818 specifications into composites by context and target population. These composites were euphemistically called the model programs. The word "euphemistically" is used because all specifications relating to each population did not automatically provide a program of teacher education in the usual sense. Rather, over 800 educational specifications were created which accommodated more than 2,000 behavioral objectives. These could then be organized by a potential user for any target population into an infinite variety of program possibilities. In Phase II, the feasibility study, four optional programs were developed for

FIGURE 3–COMPOSITE SPECIFICATIONS FOR PRE-SERVICE PRE-SCHOOL AND KINDERGARTEN TEACHERS MODEL PROGRAM

		No. of Specs.	
I.	Instructional Organization		157
	A. Necessary Training for Instruction	93	
	B. Necessary Training for Research and Development	33	
	C. The Multi-unit Organization and Individually Guided Education	31	
II.	Educational Technology		60
	A. Instructional Media and Mediated Instruction	16	
	B. Programmed Instruction	4	
	C. Computer Assisted Instruction	18	
	D. Instructional Simulation and Academic Games	14	
	E. Microteaching	4	
	F. Research in Educational Technology	4	
III.	Contemporary Learning-Teaching Process		102
	A. Cognitive Domain	21	
	B. Affective Domain	11	
	C. Social Learning	20	
	D. Basic Behavioral Operations	27	
	E. Contingency Management	19	
	F. Self-Management	4	
IV.	Societal Factors		74
	A. Culture and Cultural Transmission	16	
	B. Social Stratification and Social Mobility	12	
	C. Demographic Forces	8	
	D. Cultural Change	16	
	E. Social Control	12	
	F. Education as a Social Institution	10	
V.	Research		67
	A. Research Reports	4	
	B. Research on Teacher Education Practices	3	
	C. Research on Teacher Characteristics	14	
	D. Research on Teacher Behaviors	28	
	E. Media and Innovations in Teacher Education	18	
	TOTAL NUMBER OF SPECS.		460

FIGURE 4–BREAKDOWN OF CONTEXT

CONTEXT: Instructional Organization

SUBJECT AREA: Necessary Training for Instruction

TOPICS:

1. General Education
2. Curriculum Development and Evaluation
3. Academic Disciplines and Skills Methodology
4. Evaluation Techniques for Multi-sized Group Instruction
6. The Administration of Individually Guided Education
7. Internship
8. Admission and Retention

each of six target populations along with six "orientation" programs for three in-service populations.

It is possible, therefore, to draw programs out of the pool of behavioral specifications in a number of ways. The user can identify all of the particular behavioral objectives which are to be achieved in his particular program and then draw out these particular specifications that match his pre-determined objectives. This would then constitute the model program for his

FIGURE 5
A SAMPLE SPECIFICATION: NUMBER 5042

Number: 5042 .....
Context: RESEARCH
Major Subject Area: Research Reports
Topic: Evaluating a Research Report
Target Population: Pre-S., Elem., In-S., Admin.

Behavioral Objectives: 1

Given a research report, the student will determine whether the necessary information for determination of research validity has been included. If it has, he will determine whether:

a. the research is valid according to the appropriate criteria
b. the research is applicable for a particular group of elementary students.

Treatment:

Within the context of a joint lecture-discussion, the student will develop the correlative concepts of *necessary and sufficient conditions.* Single teaching aides and a film will be used to teach the concept of *randomness.* One or two lectures will be devoted to develop the conceptual base for all research: *Cannot be explained by chance alone.* Four lectures will be directed to the research criteria: *An outcome of research cannot be* explained by chance, but neither can it be explained by any other hypothesis except the hypothesis according to which a particular pieces of research is designed.

Materials:

Piaget, J. *The Construction of Reality in the Child.* Postman, L. and Jenkins, W.O. "An Experimental Analysis of Set in Rote Learning: The Interaction of Learning Instruction and Retention Performance."

Evaluation:

The student will design a unit of instruction based on the research findings of a study which he selects himself. His instructional plan will be appropriate to a particular elementary grade and will simulate the conditions in the research study as closely as possible. The student will attempt to replicate the findings of a particular piece of research which is appropriate to a particular elementary grade level.

particular purposes. Another way of drawing out program elements is to identify a particular topic and examine the specifications which accompany that topic. Topics can be selected from a variety of subject areas and any or all of the specifications for each topic can be used as needed. The point is that the originators of the Ohio Consortium Model do not presume that the suggested specifications provide ideal treatments or are the last word in how to deal with a particular subject area or topic. They are only one way of accomplishing any objective concerned. Explicit in the design of the Ohio Consortium Teacher Education Model is the constant re-evaluation of all procedures as the result of the evaluation of each specification.

Evaluation is of prime importance in the Ohio Model because it is not only a guide for future planning but also serves to direct any implementation effort. Also, it was necessary to devise an evaluation model which would permit comparisons between the Ohio program and other strategies of teacher education. The model developed for the Ohio project has all of these requisite capabilities and more. The evaluation model provides a continuous and systematic process of obtaining and providing information for decision-making.

It can be seen from the foregoing account that the Ohio model was designed to relate the educational system to the larger social system. To be more specific, the model brings university, public school, and community into numerous coalitions which will function cooperatively in the teacher training program. The University has the primary responsibility for the pre-service training of potential teachers and paraprofessionals, and the in-service training of its own faculty. The public schools have joint responsibility with the University for the in-service education of its teachers and administrators. For all six target populations, the Model calls for extensive field work in both the schools and the community and culminating in a fifth year internship.

Because of the peculiarities of the social system defined, the goals of the Model must go beyond the intellectual program content. The program content stated in terms of performance criteria for learners is generated by the five contexts which integrate elements of the system. There are, however, other necessary changes required to make the new system functional. The best mechanism for identifying these changes is to consider the ten assumptions underlying the original model as a series of system objectives. They prescribe activities necessary to accom-

plish the goals of the system. They are an outgrowth of the general goals for the system and permit those working with the system to choose between alternatives and to evaluate the success of efforts to restructure the system as needed.

The ten system objectives are presented below in a form suitable as a guide to action.

1. The new program requires the development and utilization of individually guided education.
2. Elementary teachers shall be prepared as specialists in one field and generalists in the other three. Pre-school teachers shall receive general preparation in the subject matter of elementary education.
3. Teachers shall be instructed by, and taught to utilize the most recent technological and media innovations.
4. The new program shall apply operant conditioning as well as practices dictated by developmental psychology as appropriate.
5. The new program requires an awareness of, and appreciation for the differences existing in society today.
6. Teachers in the new program will know how to assess the effect of their own teaching behavior and style.
7. The new program will incorporate various levels of experience in order to approximate more ideally the realities of teaching.
8. The public schools are a vital part of the teacher education program.
9. The university must be changed in ways conducive to the needs of the new program. These changes shall precede other activities.
10. Teacher preparation is continuous. The time required for initial entry will depend only upon the satisfaction of performance criteria.

PHASE II — FEASIBILITY OF THE OHIO MODEL

The purpose of the feasibility study was to determine whether or not the model designed in the Phase I effort could be implemented. This required a determination of how much time it would take to develop and implement the model and how

much the development and implementation would cost. The more specific purposes of the study coincide with the requirements set forth by the Bureau of Research in its requests for Phase II proposals.[3] The Bureau required:

1. The applicants to describe in their feasibility proposals the model teacher training program based on the specifications designed by one or more of the groups participating in Phase I programs.

2. A feasibility study which considers the development, implementation, and operation of the model program described in an institution or institutions.

The Bureau of Research also provided a detailed set of guidelines prescribing the minimum essentials required and indicated that funded studies shall accept and achieve these minimum goals. The goals anticipated the production of two sets of data. The first set involved estimates of the resources, plans, and strategies necessary to carry out the major program of development of the Phase I program specifications selected. The second set involved estimates of the resources, plans, and strategies necessary for the implementation and sustained operation of the specifications which had been selected.

In the Bureau of Research Request for Proposal (RFP) description of the model program to be selected for feasibility development, it was clear that it would be necessary to describe both the model institution with its major components and institutional settings, and to indicate clearly which particular model or combination of models would be selected for feasibility consideration. When the concept of feasibility was finally examined, information would be readily available in terms of what was necessary to develop and successfully implement the model selected at the institution described.

The RFP's mandate was that the management and program techniques applied during the feasibility study to allocate and control the resources (including fiscal) necessary to carry through a program of development, implementation, and sustained operations, must be clearly identified in the feasibility effort. The feasibility study was to concern itself with the instruments and procedures to be used to measure and evaluate a

3. **Information for Institutions Preparing Proposals for Phase II of the Bureau of Research Elementary Teacher Education Project.** Washington, D.C.: Department of Health, Education and Welfare, Office of Education, October 31, 1968.

potential teacher trainee's proficiency in designated skills and areas of competency as well as providing a feedback system to revise and improve all aspects of the proposed program procedures of the implementing institution. An orientation of the institution to the new teacher education program was required. Procedures for recruitment, selection, and retention of trainees to participate in the program were part of feasibility. Evidence of the availability of resources to carry on a major development effort at the institution or institutions doing the feasibility study was also necessary. Evidence of reciprocal commitments with state and local agencies was to be part of the study.

The RFP charge concerning cost estimates was of major importance in that it dictated much of the substance of the study. Using the exact wording of the RFP:

> "It is imperative, then, that sufficient cost data be available to those institutions wishing to implement one of the programs, or parts thereof, developed at the model institutions. These data should be available in the form which makes possible the rational consideration of alternative decisions, dependent upon alternate amounts of funds available . . . The proposal [should] describe the procedures which might be used to produce such data, on development as well as implementation costs with attention to those variables which might provide alternate cost estimates."[4]

All of this was assumed for a five-year period of development associated with implementation.

The preceding quoted statements require a Planned Program Budgeting Systems approach (PPBS). Also, it appeared that a simulation model developed by the institution doing the feasibility study would determine best cost estimates. Procedures to estimate and relate the proper costs to each of the program components and to allocate such costs accordingly to program development, program implementation, and sustained operation were clearly required. Procedures to determine ways in which costs might be allocated to several program components were requested. Procedures to establish costs on some particular basis, such as cost per student or cost per program unit, so that other institutions would be able to estimate the cost of oper-

4. Ibid. p. 10

ating the program, were in keeping with the attempt to make the model transportable. Finally, procedures to relate the proper cost of the program components to program effectiveness were mentioned.

The simulation process, using a PPBS (systems analysis) approach, was given the following inputs:

1. Information on the amount of student time necessary to complete any portion of the Ohio Model
2. The cost of materials for that model
3. The cost of faculty and other types of paid personnel necessary to carry out the instruction for the model
4. The scheduling of the model within a reasonable period of student time.

The Phase II effort can be divided into four activity categories as follows:

1. Preliminary procedures prior to specification analysis
2. Specification analysis, simulator development and cost analysis considerations
3. Specification eliminations, optimal program development, and simulation run
4. Organizing and reporting simulation results.

The first activity of the Consortium staff was a consideration of the ideas and elements of the other eight teacher education models to determine which ideas or portions of them should be incorporated into the Ohio Consortium Model. In conjunction with the review of the other models, an extensive review of the original 818 specifications was also undertaken. This reviewing process resulted in the deletion of 15 of the original specifications and the writing of 63 additional specifications. The Ohio Model thus contains 876 specifications.

Since the Ohio Model is really a model for a series of composite specifications, not for a specific program, any new specifications had to allow for this flexibility. Merely taking over specifications from the other models would not suffice because these were prepared reflecting a specific program intention. On the other hand, the Ohio Model had as its intention the preparation of variety of options which could be selected and packaged in various ways.

A pre-Phase II meeting had been organized to provide additional inputs. This meeting had been held with members of the Ohio Consortium where they had been asked to provide data about their particular institutions. This information had been incorporated into the proposal submitted for the study and included university profile, information on public schools cooperating with the institution, facts about the region and community served by the university, existing programs of teacher education, and the facilities and equipment available to the university for its teacher education efforts.

Another meeting of the State Universities Consortium was held in May, 1969, and each university representative was given instructions for collecting personnel and cost data for his particular institution. This information was needed so that the cost analysis considerations developed for this study would reflect the situations for all Ohio institutions rather than simply those for The University of Toledo. In fact, the final cost figures utilized represented a mythical, "average" Ohio university and not any particular Ohio institution although the data for this can be supplied.

Specification analysis, simulator development, and cost analysis operations were expensive and time consuming. The first activity in this step was the development of procedures for specification analysis and costing. The principal purpose of this activity, that of timing and costing specifications, was to secure the necessary information for the computer to provide a general summing operation that would give an adequately accurate estimation of cost and time for specific program options. In order to accomplish this task it was necessary to consider each specification as a cost center[5] and to secure the necessary information by specification (see Figure 6). It was also necessary to create special forms to record many items of information concerning each specification. The entire project staff including a number of consultants were utilized for the purpose of analyzing the Phase I educational specifications. The reader should initially understand that such analysis meant that each treatment and

5. The concept of a "Cost Center" has been defined by Friedman as "The smallest segment of a program that is separately recognized in the agency's records, accounts and reports." Cost centers thus become items for which cost can be separately recorded and accumulated. The term "smallest segment" in this sense refers to educational specifications and thus each cost center (specification) becomes a building block utilized to construct a planning, programming budget system (PPBS) to determine total program cost and program feasibility.

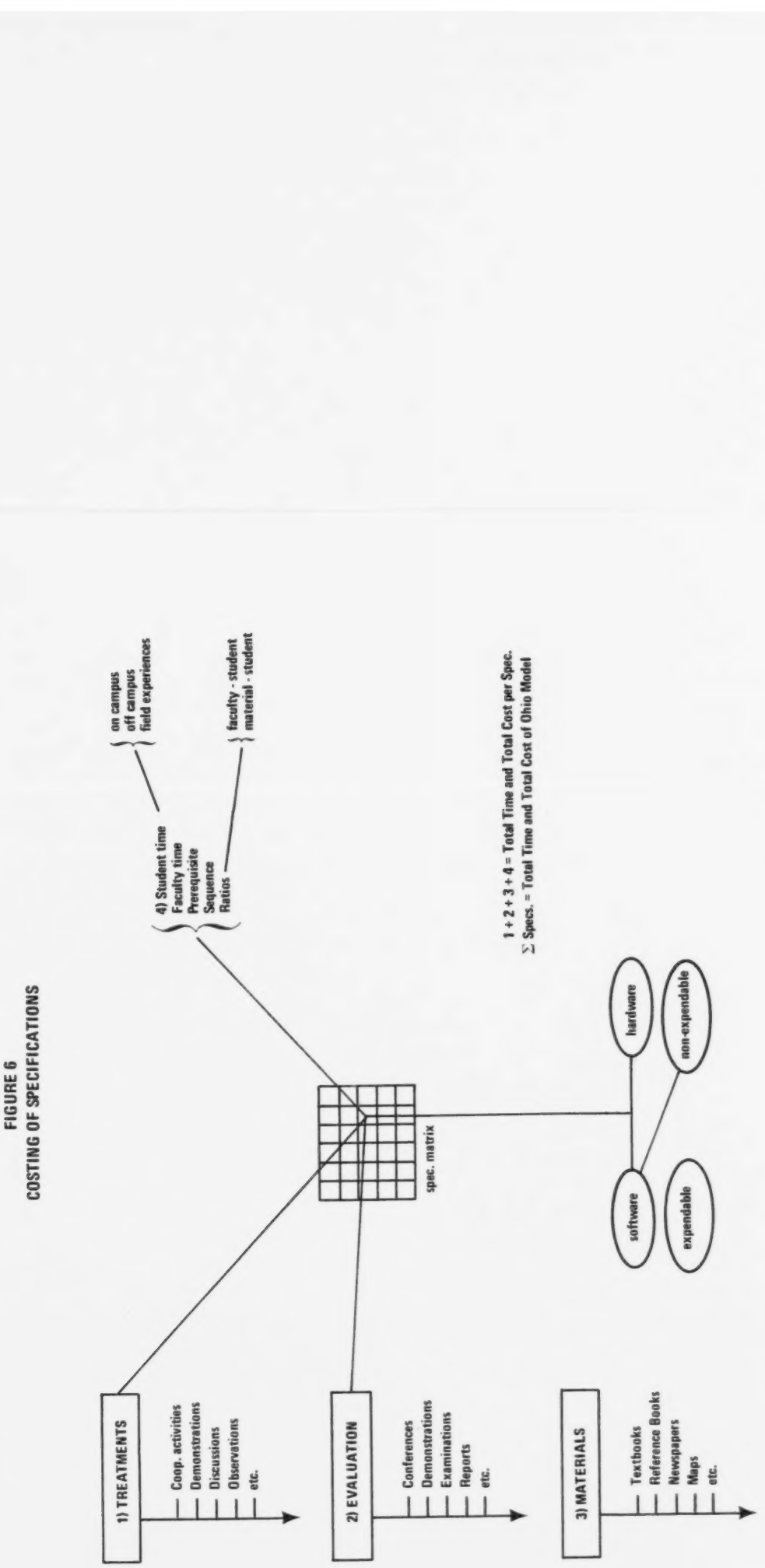


FIGURE 6
COSTING OF SPECIFICATIONS

evaluation activity as well as each material utilized per specification was analyzed in terms of time and cost.

As specification analysis continued, the New York Institute of Technology was developing a simulator which would receive and massage the input data which was the result of the above specification analysis. A simulator by definition is simply a mathematical model of a limited aspect of a specified environment. As such, its outputs are only as valid as the theoretical design it premises, the operating data, and the limiting con-

straints upon which it is based. Simulation provides the means by which numerous factors of a complex system can be assimilated into possible implementation (or other) patterns and in turn these patterns can then be evaluated. The teacher education model developed by the Ohio Consortium uniquely lent itself to simulation because the specifications by context were organized into subjects, topics, etc., which provided an ordered, well-defined basis for manipulation. The employment of computer-based simulation methods provided the consideration and evaluation of a very wide range of possible implementation patterns. Simulation was an asset in producing realistic cost estimates for these alternative patterns for program implementation and operation. It also provided the opportunity to tailor particular patterns to specified time, cost, and educational requirements.

Cost analysis considerations were also factors during specification analysis because a method and rationale had to be determined for translating current and projected Ohio higher education institutional costs for overhead, plant, equipment and personnel into a form usable for developing each cost center. Costs had to be determined for equipment and how it was to be pro-rated over various specifications. Various materials had to be costed and similarly pro-rated over specifications using such materials. Cost of personnel, faculty and other paid personnel aiding faculty, had to be determined and applied to each specification. Finally, a method was devised for allocating plant and overhead costs per specification. All of the above effort took considerable time and careful attention to detail in order to secure adequate and reasonably accurate time and cost estimates.

Once all information was available and placed in the simulator, the decision then had to be made as to which particular educational programs would be simulated. The decision was made to simulate all of the specifications applying to each of the six target populations and call these six operations the **optimal** programs for each of the respective target populations.

Specification Elimination and Identification of Option Programs

In the Final Report of Phase I, the use of subsets of the specifications in developing "special purpose" programs was discussed. This involved the selection of specifications designed to meet defined objectives. In developing option programs the process operated somewhat in reverse. That is, instead of selecting specifications, the entire body of specifications (for a population)

was the starting point and then specifications were eliminated to reach programs which were less than optimal. Rather than modify specifications in an attempt to reduce program costs and time requirements, it was decided to eliminate specifications.

The procedure for specification elimination was in part based on empirical evidence and in part on **a priori** considerations, i.e. an empirical-judgment process. In general, a two-step process was utilized: (1) rating the topics within a context in terms of priorities which were used in the specification elimination for that topic, and (2) eliminating the specifications within the topics based on the priority ratings, cost, and time requirements. (See Figure 7.) Of course, the topic ratings had to reflect the expository information of the position papers for the five contexts. For each context a panel of five "experts" was identified. There were three basic qualifications for a panel member and these were:

1. Have knowledge of and understand the assumptions on which the model was based.
2. Be familiar with the specifications.
3. Be familiar with the position paper of the context in which topics were to be rated.

The panel members rated topics. Explicit instructions were given the panel members as to the meaning of the ratings, the procedure, etc. A quantitative percentage of elimination with an upper bound was suggested for each rating. A form was provided for the rater and copies of forms and instructions appear in the Final Report of Phase II.

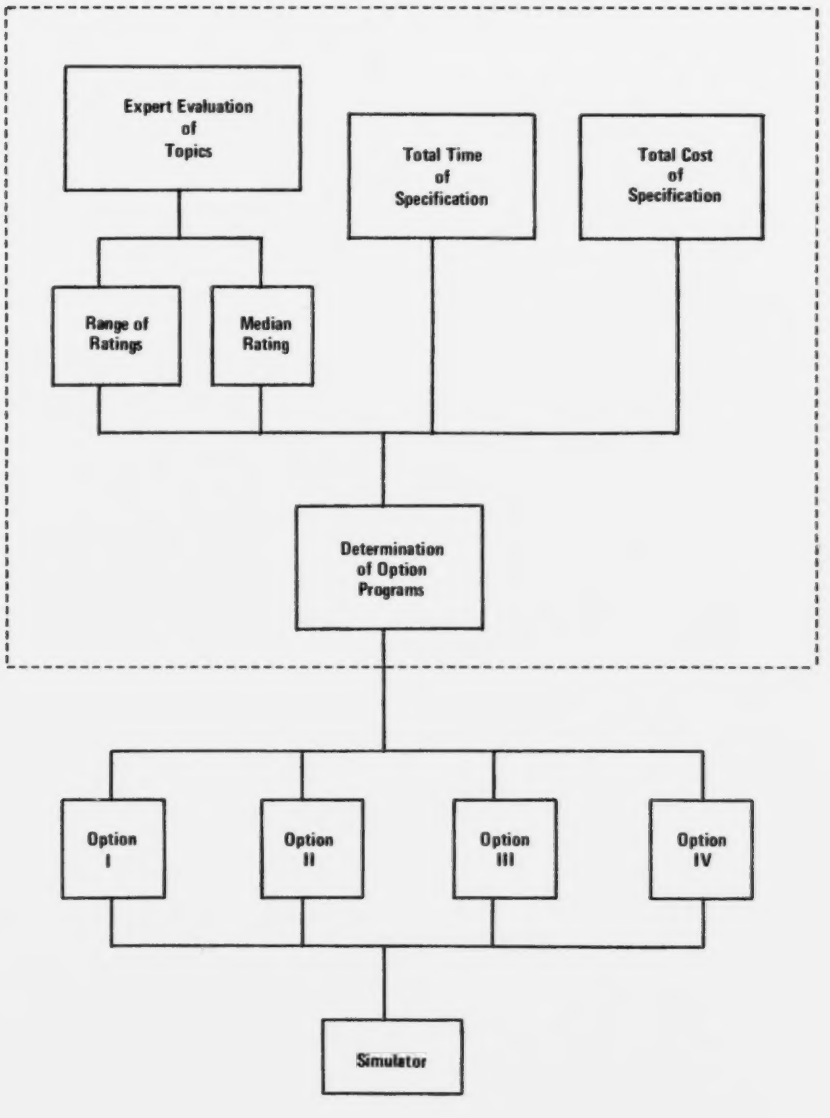
Panel ratings were returned to the project staff and the medians determined for each topic. The project staff also had secured specification cost and time information (empirical) from the computer. At this point the context coordinator, in cooperation with other project staff, eliminated the specifications by considering the rating of the topic in which the specification occurred, the content of the specification, and its cost and time data. The priority ratings of topics were used primarily to decide how many specifications to eliminate, rather than which specifications. The context coordinator had considerable flexibility in eliminating specifications. However, there were certain program restraints such as prerequisites that influenced the elimination of specifications. Applying this procedure actually

three times within a population provided the option programs. (Option I had no specifications eliminated.) Each "round" involved fewer specifications than the one preceding it until the basic or Option IV program was established for a particular population.

Orientation Programs

The Option IV program was called the Minimal program and included those specifications necessary for any teacher education program. The Option II and Option III programs were sub-optimal but yet supra-minimal. The former contained fewer

FIGURE 7
SPECIFICATION ELIMINATION PROCESS
FOR DETERMINING OPTION PROGRAMS



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specifications than did the Option I or Optimal program but more specifications than did the latter. The latter contained more specifications than did the Minimal or Option IV program.

Orientation programs for the three in-service populations were also developed. These programs were developed in basically the same manner as any "special purpose" program would be. (The orientation programs are not option programs.) Information from the panel ratings was used minimally, in that the ratings were considered relative only to the topics implied by the objectives. The procedure for developing and simulating the orientation programs is diagrammed in Figure 8.

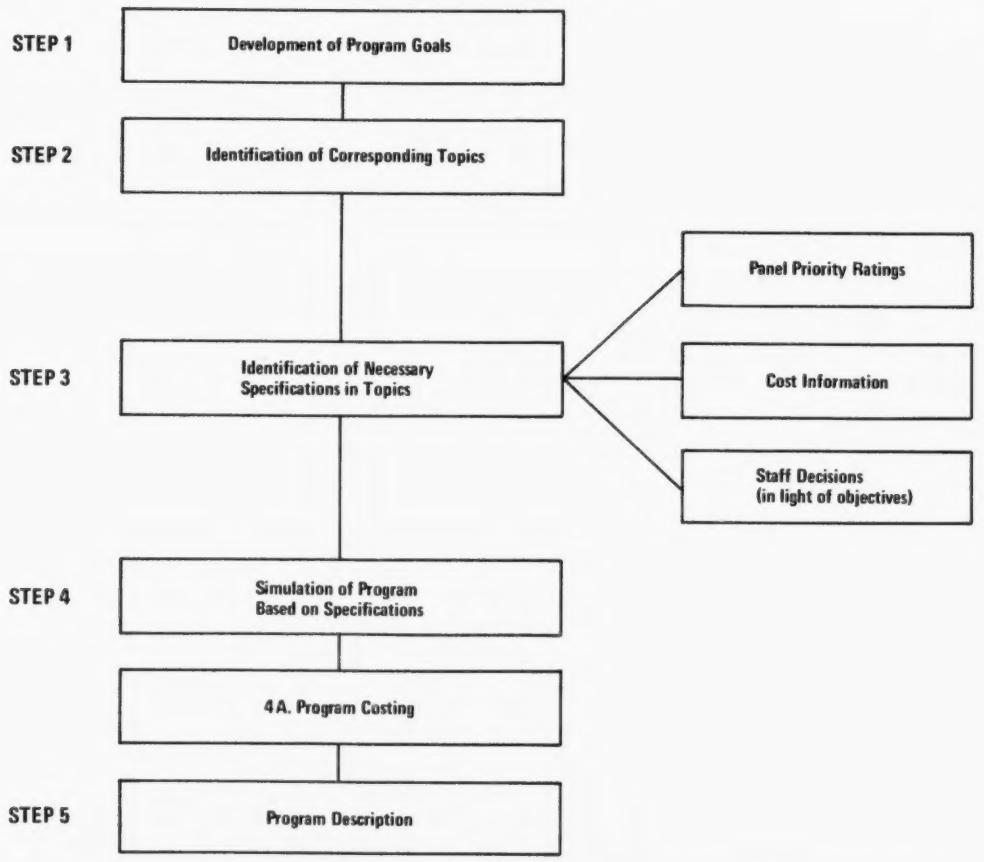
The orientation programs are not to be considered minimal training programs such as the options. The programs are introductory programs, designed to **initiate** the adjustment of the respective in-service populations to participation in the program. The orientation programs are not designed to complete the adjustment or preparation since that would involve at least one or more additional special purpose programs.

The orientation program concept was selected as a logical starting point for a given in-service population. It should be considered to be a common beginning point for all implementing institutions. From the orientation programs, institutions could branch out to fit their unique needs or directions with special purpose programs. In the context of the Ohio Consortium, this is especially applicable, since undoubtedly there will be considerable variance among universities as to the specifications implemented and the rate of implementation. Therefore, the orientation programs represent a common type of base, from which universities, within limits, can chart their own courses.

Results of the Feasibility Study

The basic question which had to be answered in the study was whether the Ohio Model was feasible in terms of time and cost restraints for the various target populations considered. Based upon the procedures applied in this study the Ohio Teacher Education Model was found to be feasible in all respects. This statement is based on the following potential **five year cost**

FIGURE 8
PROCEDURE FOR DEVELOPING AND SIMULATING ORIENTATION PROGRAMS



considerations for The University of Toledo or another comparable single university with cost projects not included:

Pre-service Populations 1 and 2, Option IV programs	$2,500,000
In-service teachers retraining program	1,173,000
University personnel retraining program	90,000
Administrative personnel (elementary) retraining program	86,000
Supportive personnel (teacher aides) training program	333,000
Management-information-system, evaluation model, development and implementation	1,750,000
Total	$5,932,000

The above figures assume a population of 200 pre-service FTE (full-time equivalent) students in Populations 1 and 2, the appro-

priate number of other in-service population personnel contingent upon this base, and 200 FTE student trainees as teacher aides. The average annual budget would be approximately $1,186,400. These figures assume the utilization of Option IV programs for pre-service and supportive personnel plus more than one special purpose instructional program for in-service personnel. Also included in this average annual budget was $1,750,000 for the development and implementation of the evaluation model, i.e., the development of the management information system (MIS).

It is important to emphasize that the previous information applies to **all** costs (direct and indirect) for training or retraining **all** of the six target populations involved in the Ohio Model. These costs include **both** development and implementation. Relevant to this, The University of Toledo is presently committing in terms of all applicable costs over a five-year period approximately $1,300,000 to the baccalaureate education of 200 FTE pre-service elementary education students. The Ohio Model calls for a fifth year of internship plus at least one summer session. The additional year of university enrollment would increase potential local program contributions for 200 FTE's by approximately $720,000. This will definitely decrease the funds needed for pre-service program development and implementation by $2,000,000 with further cost reductions possible. Upward cost projections will obviously result in higher expenditures but at the same time there will be increases in state subsidy and tuition. On the other hand, some of the in-service retraining costs would primarily be of a single expenditure nature over the first year or year and a half, especially programs for in-service teachers and administrators. Also, the anticipated funds necessary to develop and implement the management information system (MIS) would be a once only cost.

When the MIS is operable it can be adapted by all consortium institutions as well as institutions not included in the Ohio Consortium. Thus, after initial in-service retraining efforts, the application of present university funds for pre-service education, and the development of the evaluation design, the remaining total costs of continued model development and implementation would be reduced substantially. Such costs will consist, principally, of (1) pre-service personnel training costs over student tuition and subsidy, (2) modest, continued in-service retraining efforts considered necessary, and (3) supportive personnel training costs, if any, over student tuition and state subsidy.

The sum for such efforts would be approximately $525,000 per university over all years remaining in the original five.

Further cost savings are possible. Joint efforts in development and implementation by several universities would be one source. For example, in-service education efforts in the Ohio Consortium can be combined between institutions located near each other. A second example would be a savings in the indirect costs of the program. It has been stated previously that indirect costs included in the previous cost considerations are definitely susceptible to being lowered due to an increased amount of student time spent educationally off campus. Also, developmental costs for instructional materials to be used in teaching the multi-unit elementary school concept may be lower than anticipated because of material development by such groups as I/D/E/A of the Kettering Foundation and the University of Wisconsin R & D Center for Cognitive Learning.

If higher optional programs (Options III, II, and I) were to be considered, costs would naturally increase. This increase would be needed more in the first three years of the program than in the final two. This would be due to certain development efforts which would be necessary initially as implementation procedures began. Obviously, the various cost considerations in development and implementation are dependent upon the desires and needs of any particular institution.

The foregoing discussion of costs did not include consideration of time feasibility. The computer simulation of the various option programs in the pre-service populations indicated that the total time required for successful completion of the various programs was only feasible in terms of Option IV, i.e. the "Minimal" program. The time constraint for the pre-service populations was established at 135 weeks. (Nine, eleven-week quarters over three years and three, twelve-week summer sessions.) The amount of time required for Population 2, Option IV totaled 134 weeks of student time, and for Population 1, Option IV, the total was 147 weeks of student time. In the latter, the additional weeks required as a result of the simulation was not considered to be significant and thus the program was considered feasible.

In summary, the preceding discussion clearly indicates that within the established time and cost restraints the Ohio Model is feasible in such terms throughout its development and implementation from the time an undergraduate student enters the program until he completes it five years later.

PART II

IMPLEMENTING THE MULTI-UNIT CONCEPT

Rationale for Change

Peter Schrag, one of the more literate and prolific of school critics, has often recounted the "failures" of American public education. In a passage from **Village School Downtown,** he complains:

> "In the past generation we have overhauled our highways, our war machine, our airlines, and airplanes, our downtown office buildings, our very style of life. But we have hardly begun to overhaul our urban schools. Most of the school plant dates back a good generation while educational ideas in the schools have changed hardly at all since the nineteenth century. . . . The schools need a fundamental restructuring. . . . They demand a totally new approach distinct from the concept of the unitary class in the unitary school, and they demand the utilization of all the urban and technological resources new becoming available."[1]

If it can be assumed that Schrag's "unitary class in a unitary school" alludes, in part, to the self-contained classroom, then the following account hopefully will provide a structure for change. Historically, an unfortunate aspect of the self-contained classroom was that it was created on "a monolithic educational structure built from the ground up on the assumption that one teacher could be all things to all children."[2] It would seem that if educators are to become more professional, a more appropriate use of available talent will need to take place. Furthermore, such a new plan will encourage the public to see that a more efficient use of talent is being utilized.

It must be remembered that the self-contained school was not organized because of research findings but because it was administratively expedient and stemmed from a naive, pragmatic notion of a child-centered classroom which implied that one teacher could "do everything." Now, in view of the "knowledge explosion" that has been witnessed in American society, to ex-

1. Peter Schrag, **Village School Downtown,** Boston: The Beacon Press, 1967, p. 184.
2. Fenwick English, "Teacher May I? Take Three Giant Steps! The Differentiated Staff." **Phi Delta Kappan** XLX (December, 1969), p. 211.

pect any teacher to manifest such a wide range of ability is not only unfortunate but almost absurd. To be cognizant of the processes and product knowledges in such diverse fields as reading, language arts, social sciences, mathematics, and science is simply too much to demand of any teacher much less an assortment of other skills such as art, music, health, and physical education. No one teacher can do these things and it is unrealistic to suggest that teacher educators can train such people. Therefore, the multi-unit organization seems to make sense in terms of a modern concept of American education.

At the outset, it is necessary to examine some recognizable trends in American education for the Seventies to understand the social context into which the multi-unit concept will fit. First, a trend toward greater **accountability** is obvious. Such bywords as "local control," "citizens' committees," and "performance contracts" are already on the scene. In one way or another each of these ask: "Are you doing what you are supposed to be doing? Are the kids **really** learning — prove it! If they are not, don't ask for our tax support." Therefore, the accountability is fiscal as well as pedagogical. It is fiscal to the community because people in the community are concerned that educational time is well spent in the sense that teacher teaches and child learns. These efforts will not only be promoted by team teaching of some kind but will be facilitated by the use of paraprofessionals who will do many of the unprofessional chores that have previously been delegated to teachers.

The second kind of accountability is pedagogical. This will mean pedagogical accountability to one's professional peers as well as to the children. Again, the basic question is: Are children learning under your direction? More and more the students assess teacher performance and will continue to do so. Also, team teaching arrangements force a professional accountability upon teachers because they are no longer able to retreat into their "own" self-contained classrooms and "hide." They perform in front of their peers each and every day because a team teaching arrangement will be implemented.

This leads to the second point which mandates **research** support for teacher evaluation. No longer are evaluation people saying that teachers cannot be evaluated; indeed they can. All the teacher education models contain provisions for performance (behavioral) objectives in the evaluation of teacher be-

havior. This is also done in the undergraduate program with behaviors that are measureable in behavioral terms while planned and controlled through system analysis. Systems analysis provides constant feedbacks into the model so that corrective measures can be used in promoting necessary changes efficiently and accurately.

The third recognizable trend is the organization of **coalitions** between school systems and universities as well as agencies and corporations outside of the educational arena. In particular, team teaching arrangements involve the use of clinical professors. In a sense, this is another kind of accountability because the clinical professor is in the schools working with the children and with teacher in-service activities. Like the teacher who cannot hide, the professor will no longer be able to retreat into his Ivory Tower. When you think of the multi-unit kind of team teaching organization you find a close liaison between the clinical professor and the school team. In fact, it is not impractical to think of public school personnel holding clinical professor rank at the university. All of the above is premised upon the demise of self-contained classrooms because each point suggests various elements of cooperation that cannot take place unless the organizational plan of the school is altered.

As indicated in Part I, the Ohio Consortium Model offers a feasible alternative to Schrag's concern in the form of a multi-unit school organization utilizing the concept of the differentiated staff. Differentiated staffing means that within a team, different teachers have different responsibilities—that if you want to individualize instruction you must first capitalize on the talents of the individual teachers. You cannot do this in the existing school structure. Teachers must be given an environment in which they are encouraged and supported in "doing their own thing." Modified from the R and I plan of the Wisconsin Research and Development Center for Cognitive Learning, a plan using these concepts is currently being implemented at the Martin Luther King, Jr. School in Toledo.

If, indeed, the multi-unit school is going to be the school of the future, — intellectual as well as practical supports for such an approach need to be established. Rather than recount the numerous research efforts of the Wisconsin R and D Center, it is suggested that the reader familiarize himself with those documents that enhance his knowledge of those efforts. Herbert

Klausmeier, the Director, succinctly summarizes the research when he says: "Without stretching it, it is perfectly correct to say that children achieved at least as well, and in most cases somewhat better than in the control schools." Less empirical, but nevertheless important, is the information that fewer children were retained (two compared to 49 and 32 in previous years), discipline problems were reduced, and teachers and children "feel better" about their school.

However, it will take more than a recounting of successes at Wisconsin or King to **really** convince anyone to accept the concept of multi-unit organization. The educator of the Seventies must divorce himself from the concept of the self-contained classroom as currently manifested on the American elementary education scene. A basic assumption of the Ohio Model is that it is not practicable in terms of the elementary schools of the future to prepare teachers for the outmoded self-contained classroom concept of the past but that teacher training should be oriented to a differentiated staff, team teaching type of elementary school organization.

Interestingly, all of the other teacher education models have, in varying degrees, accepted some sort of team teaching arrangement in view of the mandates of a modern, changing technological society which demand that the **schools must change**; not change willy-nilly, but ordered, intellectually supported change, buttressed by a rather simple question: "Can we do a better job?"

Multi-Unit Organization Explained

The practicing multi-unit school should not be equated with two or more teachers teaching in the same room. Nor should it be equated with large group instruction followed by discussion or activity groups. Nor can it be equated with a detailed organizational chart. Some multi-unit schools have similar kinds of people within units; some may have a great deal of instruction done by teachers in the same room; in some multi-unit schools you may find large groups of students brought together for expository teaching. However, despite these possible similarities, to define the multi-unit concept by such particulars does the idea an injustice. It is not that specific. In fact, the uniqueness of

the idea is that rather than being a new orthodoxy, it is actually institutional approval for groups of teachers to function as decision makers.

The multi-unit organization no longer renders practical a discussion about pupil-teacher ratio; now it is pupil-adult ratio. Although the plan varies depending on number of children involved, a unit consists of team leader, other teachers (perhaps two), student teacher (perhaps two), and paraprofessionals (perhaps two or three including persons from the community and/or undergraduates from the College of Education) for about 100 children. Such a plan offers myriad configurations of interrelationship ratios between child and adult, e.g. 1-1, 1-50, 2-25, 3-60, ad infinatum, but certainly increases the opportunity of meeting children's needs—cognitive as well as affective.

A familiar notion that has long been expressed in education is that there are individual differences among children. Isn't it about time to recognize individual differences among teachers? For example, the teacher who is less competent can be neutralized in this kind of a setting. In fact, whatever talents he or she has will be implemented more fully, e.g. a person with math competency becomes the "expert" on the team. This organizational model also encourages the teacher who was previously accustomed to self-contained instruction to also make use of whatever special talents that were previously developed in that setting. Because leadership models tend to be developed in any kind of group activity, leadership patterns develop among the teacher group. In other words, somebody will assume the leadership or be appointed to such a leadership role. For a long time teachers have complained about the dominance of administrators, therefore this kind of model gives them an opportunity to assert their own particular leadership style.

The concept is a simple one; as simple as respecting the professional competence of teachers. It assumes that teachers believe that there is a more effective way of meeting the needs and interests of today's children than putting one teacher and thirty children in a self-contained classroom. It assumes that regardless of the curriculum resources or structure, it is the teacher that makes the difference. If the teacher is enthusiastic about the subject, if the teacher has personnel to individualize instruction, if the teacher is part of the decision-making process, instruction will improve.

The second major advantage in the multi-unit organization is that it provides for planning and curriculum building through flexible use of time. Because of the unlimited large and small group instructional configurations that may or may not utilize student teachers and paraprofessionals, the teachers in the multi-unit group will find that they will have time to talk things over during the school day and in so doing give themselves an opportunity to tailor the curriculum in view of the kind of children they are educating. If groups of teachers are brought together to decide how to distribute the instructors and students in that unit, it is quite probable that they will decide to do some departmentalization, some ability grouping, some large group/small group instruction. They may initiate independent study programs or contact curriculums or curriculum units based on local issues. These sorts of things may happen, but the plan does not guarantee it. The teachers may become enthusiastic about a particular distribution of personnel and responsibilities and remain with it indefinitely with the result that little real change occurs. The teachers might even choose to ignore the team concept and resort to self-contained classrooms although this would indicate failure of their in-service preparation. An administrator must know his staff's values and strengths. If he believes that providing time for groups of teachers to plan teaching strategies will not result in change then he should not support the multi-unit plan.

The third advantage of the multi-unit organization is that it exposes the child to a variety of adult models: Unit leader, teachers, teaching assistants, teacher aides. Under the self-contained organizational scheme, one of the more difficult problems that the teacher and the child had to confront was lack of rapport and the fact that the two would somehow have to get along until June. The team teaching arrangement gives the child many people to relate to whereby he can, in a sense, form an eclectic kind of personality if he so desires. If there is a lack of rapport with one or two individuals the child will end up working effectively with the person he works best with (or match cognitive styles with) or at least will not be "stuck" with the person perceived as undesirable, every day all day.

Lastly, the multi-unit organization facilitates the development of evaluation models. This is where the systems approach is most obvious because in this arrangement a variety of feedbacks is available to the teachers that let them know whether

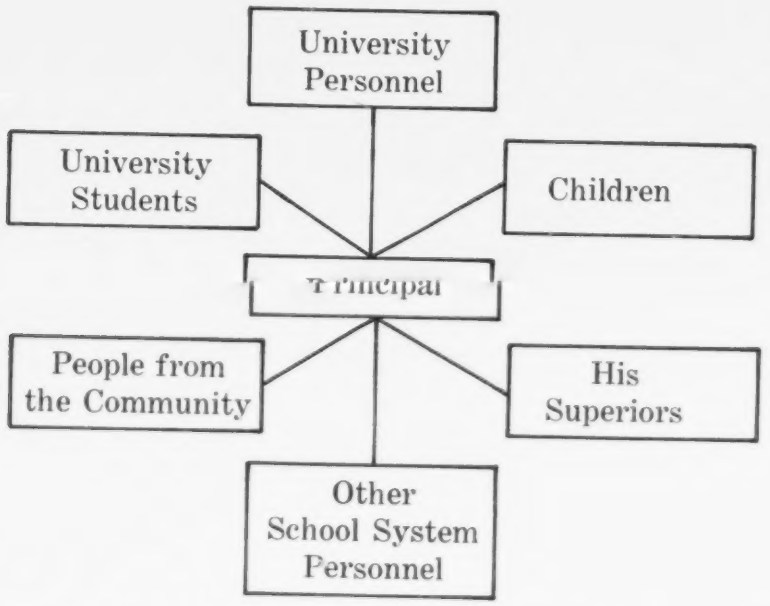
or not they are doing what they are supposed to be doing. These feedbacks can be from the children, from peers or from the university personnel who are often involved with the team because of the presence of student teachers. In a competency based educational program the behavioral objectives are undergoing constant testing. If they are effective they will do what they are supposed to be doing and if they are not they will need to be deleted or changed so that performance criteria can be realistically established.

A major problem with this organizational scheme is teaching teachers to work cooperatively and effectively within a differentiated staff. In the past, teachers have not been trained to use paraprofessionals nor have they been taught to work effectively with one another in a team operation. This demands patience, courtesy, professionalism, a considerable amount of in-service education and assistance from impartial observers. This is not to suggest that the activity can be carried off without any problems. Problems will occur but if the teachers are objective about their evaluation effort they ought to be able to make the necessary corrections to make the system go. Furthermore, this kind of school demands a different kind of administrative model because much of the planning and curriculum building resides in the hands of the teachers and their own indigenous leadership.

The Role of the Principal

Because the organizational structure of the traditional elementary school is so dramatically altered with the creation of units and differentiated staffing, the mandate for change thus accompanies the role of principal. He can no longer be regarded as the instructional leader of a staff of some thirty-five teachers because this kind of activity now resides within the team. By analogy, his role more closely approximates that of a hospital director who uses his talents to facilitate the professional tasks of his staff. He makes sure that the operating room is properly equipped with hardware and manpower so that a team of doctors is able to give a patient the best possible attention but he doesn't tell them how the professional task will be performed. However, if a problem besets the smooth functioning of the institution he is ready to use his authority to alleviate the situation. So the principal lends his expertise through the steering committee and makes himself available to all members of the staff as a supportive figure.

All of the above is premised upon the assumption that the principal accepts, understands and supports the concepts of the multi-unit school and all it promises. There is no sense in deluding anyone — the system cannot work without his commitment and the willingness of his superiors to support that commitment. The opportunities for the principal to act as the hub of myriad relationships are likewise promoted:



In a sense, he is "chief of protocol" who explains and interprets unit operations and roles to any and all interested parties; in other words: public relations. This phase of the role cannot be underestimated in a time of community unrest and concern over accountability.

The impression might exist that somehow the role has less status than previously thought. Quite the contrary! The role demands more varied competencies and consequently must be regarded as a greater challenge than ever before! It truly represents executive functions and leadership roles.

General Organization

The general organization of a multi-unit school has three key components:

1. The System-Wide Policy Committee
2. The Steering Committee
3. The Unit

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It is difficult to define with any precision the composition of the **System-Wide Policy Committee.** Perhaps it is easiest to say that it reflects existing power figures in the community. It should, at least, be composed of the head of instruction in the district, principals of multi-unit schools, and perhaps a unit leader or curriculum coordinator from each multi-unit school. In addition, it might be useful to have lay representation from the school board or the community-at-large. Where there is close liaison with the university or an R & D Center, representation from that segment ought to be encouraged. This group should meet once a month to review policy implications for the school; act as a medium of communication to the school board, central administration and community as a whole; study and alleviate logistical problems; review cooperative endeavors between the university and the multi-unit schools; receive progress reports from each school; and review parental concerns unresolved at the school level.

The **Steering Committee** (Instructional Improvement Committee) examines school wide educational concerns and suggests ways to improve instruction. They meet once a week during normal school hours and include the Principal, Curriculum Director, unit leaders and University Coordinator (if there is one). They discuss concerns and new programs as well as resolving problems caused by plans of one unit requiring the cooperation of other units, e.g., "We need the large room on Wednesday afternoon." "Could we use the music teacher on Monday morning?" "We need three student teachers to help on the field trip." Other instructional problems that are brought up include matters which have implications for the entire school that might be resolved through the counsel of the steering committee. Examples of this might include changes in library procedures, use of consultants, and in-service needs. Suggestions for in-service training are made at this meeting. Unit leaders report the needs and interests of their unit. In the discussion, the Steering Committee seeks to find common topics for in-service training and instructional strategies for improving experienced teachers.

Ideas examined in one unit relative to innovations are discussed at the Steering Committee, e.g. home visitations, new policies for visitors and utilization of student teachers. Suggestions for new instructional programs are also made to this group. It is most appropriate for the Steering Committee to use its time to examine innovative curriculums in various subject matter areas.

The unit decides, within the parameters given to them by the school board, what is to be taught, how it is to be taught, how long it will be taught, how the students will be distributed and the instructional responsibilities of the teachers. They meet two or three times a week during "normal school hours." Students arrive two hours later than usual, or are released earlier. A third alternative is to have special teachers (e.g. art, music, health, physical education) responsible for teaching the children at this time.

Each unit will make different kinds of plans. It is possible that the unit will devise structures that have characteristics of ability grouping, departmentalization, large group/small group instruction and independent study programs. Whatever is decided, it can—and probably will be—changed by the unit as they experiment with programs.

Some units begin team teaching by ability grouping skill subjects and initially departmentalizing subjects in which one or more teachers have a special interest, e.g. two teachers share science and social studies responsibilities while one teacher has language arts. Initially the unit focuses on one subject for team planning, and as the team becomes experienced, the strategies designed by the unit to utilize an organization containing teachers of different talents begins to look quite different from the self-contained classroom or departmentalized school. As the unit becomes skilled in group dynamics and feels confident that their decisions will be approved by the administration the growth of teacher creativity will become apparent.

Agenda

The following is an example of an agenda that could be used by a unit leader to team plan a curriculum unit.

1. What do we want the children to learn from this topic?
2. How long will it take to teach the topic?
3. What instructional materials should we order for this topic?
4. What instructional materials do we have on hand for this topic?
5. Has anyone had any success with, or would recommend a particular learning activity for this unit?

6. Does anyone have any suggestions about learning activities that would require advance planning: a field trip, a guest speaker, the building of something?
7. Are there any instructional strategies appropriate to this topic that are conductive to grouping all the children in the unit together, such as a film, a guest speaker, a slide program, a field trip preparation?
8. Are there any children who have special needs in this area? Do they have a unique background or resources that should be known to the other teachers in the unit?
9. Once general suggestions for learning activities for some objectives are identified, the group must decide who is responsible for achieving the remaining objectives.

Several instructional options are available to the unit. For example, **any or all** of the following teacher responsibilities could be assigned by the unit in one of their planning sessions.

1. Each teacher might be responsible for conducting learning experiences in his homeroom.
2. A teacher could be responsible for leading a discussion group in a large group/small group presentation.
3. A teacher could be responsible for the large group presentation in a large group/small group presentation.
4. A teacher could be responsible for a special interest group that will be doing a parallel project.
5. A teacher could be responsible for teaching all the students in the unit, either in a number of normal class-size groups, or in one large group.
6. A teacher could be responsible for a special task within the unit, e.g. conducting a number of mini-field trips.

Unit Functions

According to Klausmeier the following are functions of the unit: 1. Engage in exemplary instruction; 2. Generate knowledge about the learning process; 3. Field test innovations; 4. Develop instructional materials; 5. Demonstrate the activities of the unit.

Exemplary instruction is generally defined as determining the objectives of the unit or topic; determining the capabilities

of individual students to meet these objectives; planning the instruction based on the capabilities of individual students; evaluating the success of the students; using the evaluation to improve the instruction.

Naturally one can, and many do, engage in exemplary instruction without knowing the formal definition of exemplary instruction. However, in a unit the teachers are conscious of the steps and base their planning and their instruction on the fulfilling of each of the ingredients of exemplary instruction.

The research aspect of a unit is often the source of unnecessary anxiety and much confusion. To generate knowledge is to conduct research. However, to many people research is equated with statistics, control groups and standardized tests. In reality, knowledge is generated a number of ways; research is conducted using experimental techniques as well as empirical. For example, suppose a teacher had an idea about a practice, or read in the INSTRUCTOR about an idea. It might be helpful if the students on the first day of school completed a number of open-ended sentences such as: "I wish grown-ups knew . . ." "The thing that would make me most happy . . ." "A good teacher is one who . . ." The teacher tries the idea out. He notes how the students react, he looks at what they wrote, then based on how the children reacted, based on what they wrote, he makes a judgment: "It was a waste of time," or "It was a good idea." The teacher tells of his experiment in the teachers' room. This is research—with dissemination "thrown in" for good measure.

Naturally there are more sophisticated ways of generating knowledge, such as a controlled experiment, BUT IT IS THE RESPONSIBILITY OF THE UNIVERSITY PEOPLE TO CONDUCT FORMAL EXPERIMENTATION, GATHER DATA, WRITE IT UP AND INFORM THE TEACHERS. A member of a unit is not expected to be a statistician or a university researcher.

A multi-unit school must be a try-out school. The faculty must be responsible for trying out new textbooks, new curriculums, and new organizational patterns such as team teaching and given authority to make decisions about implementation and adopting them. Unit leaders and the members of the unit report back — usually orally, to interested parties, such as the central office—their experiences. For example, if a unit is testing a new social studies series, various questions might be asked:

1. Readability — did it appear the students could read the text?
2. Did the students enjoy the content?
3. Illustrations — what is the quality of the charts, maps, and pictures?
4. Comparison — to what extent did you find the text better than the existing one?
5. Could you think of a better use of instructional funds that would achieve the same objective?

Units are responsible for creating instructional units, in that they team plan instruction. They will, on occasion, identify a topic or subject for which there is no existing curriculum and will find it necessary to develop a curriculum or instructional unit to teach that topic. For example, they might assume the responsibility of writing a unit entitled: BLACK CAPITALISM, THE PORT OF TOLEDO, SPORTSMANSHIP, OR MARTIN LUTHER KING, JR. The teachers in the unit would plan the lessons, find or create the printed audiovisual materials and, in general, prepare instructional materials that could be used in other schools.

Perhaps the greatest merit of the multi-unit school is its flexibility. However, there must be commitment on the part of staff and community that is supported by the super-ordinates of central administration, otherwise any consideration is irrelevant. The organization can and does function in traditional buildings built for self-contained operations although many would argue that the open concept (school without walls) encourages a greater variety of grouping and individualized approaches.

The King Experience

The University of Toledo and the Toledo Public Schools operating in concert felt that the Martin Luther King, Jr. School would provide the testing ground of the ideal of the multi-unit. What follows is a description of the multi-unit operation at King and what was done to implement the program.

King School is located in the heart of Toledo's inner-city and has 736 black children, 29 black and three white teachers. The beginnings of multi-unit organization can also be found in

middle-class suburban Toledo. The Wisconsin prototype now exists in over one hundred schools in that state amid a variety of rural-urban settings which alone suggests the flexibility of the model.

The debate surrounding gradedness vs. non-gradedness is simply an academic discussion — the multi-unit concept can be implemented with either emphasis. At King, the teachers were originally organized by grade but are gravitating into non-graded organization. The organizational plan illustrated (Figure 9—appendix) is basically non-graded but could be easily adapted for grades by simply having six units, one for each grade.

In-Service Education

At King School the teachers believed that in order to establish a functioning multi-unit school in-service education was needed. The Steering Committee outlined the following policies regarding in-service education.

In a multi-unit school, in-service education is ubiquitous, ongoing and undergirded by the following practices:

1. The teachers suggest objectives for in-service instruction.
2. The instruction occurs during "normal" school hours.
3. The instruction is "problem" centered. It is designed to assist teachers in their day-to-day practices (It is **not** a substitute for theoretical development available and appropriate to the formal university course).
4. Whenever possible academic credit will be granted.

In order to facilitate the above policies, the university professor meets weekly with individual units to assist them in the planning of instructional units. During one particular quarter the units at King focused on the preparation of teacher-made social studies curriculum units. One day a week the unit and a social studies consultant from the university spent one hour preparing curriculum materials.

Grade 2 prepared a curriculum unit entitled "Understanding Our Neighborhood." The unit organized learning activities that focussed on using local resources and authorities.

Grade 3 prepared a curriculum unit entitled "Important Black People in Our Community." The unit examined various occupations including law, medicine and business through a series of mini-field trips, guests, video-tapes and dramatizations.

Grade 4's unit was "Ohio and My World." Under this umbrella topic, a variety of learning activities were structured; individual students selected those modules that interested them.

Grade 6 chose to focus on a series of experiences that reinforced their try-out of a program that teaches students to be social scientists. Cultural emersion experiences as well as learning activities that focus on the affective domain were planned.

Research in the school focused on problems identified by the teacher. The university personnel assisted in the creation of the research design. One teacher explored the question: Does the individualized method of reading instruction increase reading proficiency of **both**—high and low ability pupils more than the traditional basal reader approach, as utilized by the units at King? Related hypotheses tested in this experiment were: (1) High ability students who are taught reading utilizing the individualized method of instruction achieve a higher degree of reading comprehension than high ability students taught by traditional techniques, and (2) Low ability students who are taught reading utilizing the individualized method of instruction achieve a higher degree of reading comprehension than low ability students taught by traditional techniques.

The university supervisors participate in the planning of teaching units and building in-service activities. Once a man has obtained his doctorate, he seems to quickly forget those criticisms that he made of university professors when he was a public school teacher working on his masters degree. He no longer remembers his complaints about method instruction: "Too theoretical!" "Why doesn't he deal with the specifics of teaching!" In a similar fashion, many public school teachers wish their supervisors would avoid generalities and instead roll up their sleeves and join with the teachers in the planning of team-teaching units, with instructions such as encouraging the teacher to: "Provide the student teacher with more opportunities to individualize instruction."

At the Martin Luther King School, the supervisors attend one meeting a week of the teaching units to help them plan their unit instruction. The supervisors work in their subject matter

speciality. The opportunity or need for university personnel to criticize the school and curriculum quickly disappears when the university professor is in part responsible for the curriculum. Furthermore, in-service programs can be generated as the need arises.

Planning Time

Change occurs only to the extent that the school environment is conducive to change. Teachers need time to get together to test out ideas, to brainstorm or improve instruction. The program at King was built in time for the teachers to plan—and it paid off!

THE PLANNING CALENDAR OF THE KING SCHOOL

	Monday	Tuesday	Wednesday	Thursday	Friday
Time 8	Unit Planning Grade 1		Unit Planning Grade 1		Unit Planning Grade 1
9	Unit Planning Grade 2	Unit Planning Grade 4	Unit Planning Grade 2	Unit Planning Grade 4	Unit Planning Grade 2
10	Unit Planning Grade 3	Unit Planning Grade 4	Unit Planning Grade 3	Unit Planning Grade 4	Unit Planning Grade 3
11			Student Teaching		
12			Seminar		
1	Unit Planning Grade 6	Unit Planning Grade 5	Unit Planning Grade 6	Unit Planning Grade 5	
2	Unit Planning Grade 6	Unit Planning Grade 5	University Leaders	Unit Planning Grade 5	
3			Graduate Course		

As a result, each unit at King school has devised its own instructional program. Programs change within units as personnel change. Resignations do occur, but they occur because of pregnancies and promotions. The first grade unit schedule

has changed since the beginning of the year, but presently a visitor would note that reading is ability grouped — but the base number is 100 not 25. He would note that math is also ability grouped — but those in the low group are not the same as those in the low group of reading. A visitor would note that teachers are given an opportunity to discuss the needs and abilities of students. These discussions occur during the unit meetings which are held Monday, Wednesday, and Friday mornings between 8:30 and 9:30: "Should Cynthia be changed to a higher group?" "Has Willie's home situation affected his work in math?"

In the afternoon, math, science and social studies are departmentalized except on Wednesday afternoon. Every third Wednesday afternoon, one of the subject matter specialists is responsible for all the children for a two-hour block of time. She decides how the other teachers, teaching assistants and aids will be used during this time. Wednesday mornings are usually devoted to the subject matter specialists explaining her goals for the day.

In the sixth grade unit there are five teachers, all subjects are departmentalized. However, the teachers have incorporated into the departmental structure a few interesting modifications. Two teachers are responsible for one subject, they teach it at the same time and cooperatively plan instruction. The students are ability grouped except that on occasion they are interest grouped. In one subject the students are taught in large groups of 48 and then are divided into activity groups of twelve which are homogeneously ability grouped. On Friday afternoons for one hour, students are allowed to select an instructional experience that interests them. A teacher in each discipline is available for tutorial help. Students may group together and engage in an anthropology program. Students may use a media kit and experience cultural emersion. Students may go on a mini-field trip supervised by undergraduates from a university methods class. Students may tutor first graders. In summary, each unit varies not only in size but also — and far more important — in how they distribute their resources; truly a division of labor.

The units change. Existing personnel examine programs they have tried out, they informally report to their colleagues in the unit information gained in graduate classes or in-service seminars. New personnel in units introduce new strengths, new

plans. Student teachers — who participate in the planning sessions — make suggestions based on what they have learned in methods classes. The result is that, to some extent, the descriptions of unit activities printed above are now inaccurate, they are now prior practices.

Student Teaching in a Multi-Unit School

Because of the nature of the multi-unit school, obvious departures from traditionally accepted roles in the student-teacher, university supervisor, and cooperating teacher relationship emerge. These changes should become obvious as the program is reviewed.

The multi-unit concept should facilitate the supervision of student teachers because the student and cooperating teacher are so intimately involved with the functioning of the team. Furthermore, the regular presence of university personnel in the building likewise facilitates supervisory activity. Supervisors with limited involvement in schools have provoked unflattering remarks such as:

> "What supervisor? I haven't seen one in two weeks?"
>
> "I see them, they usually come in on the afternoon that is scheduled for special subjects, or when we are rehearsing a play or having a party."
>
> "I talked with the supervisor and I don't think he has ever taught the subject, he certainly seems to be naive about (substitute any of the following: "inner city children", "primary graders", "FLM", "working class mores", "modern math")."
>
> "I saw the supervisor when I registered for a graduate course — imagine if we ran the public schools as chaotically as they handle registration."
>
> "Mine came in last week and talked about the importance of individualizing instruction: You know, I never have seen a university class where multiple learning activities occurred, and I'm beginning to wonder if he knows how to individualize instruction in the public schools."

"How can he expect a student teacher to remember how she responded to every incident that occurred during the lesson. You usually are so busy trying to teach and look "good" that you can hardly remember how you started the lesson, never mind what happened in the middle of it."

In order to facilitate the supervisory process the following techniques have been established at King.

1. **A room in the building was designated as: "The University Center".** Adult furniture was obtained and the room was arranged for discussions-in-the-round, private conferences and a private work area for supervisors. The university supervisors agreed to spend one specific day, once a week, in the building either supervising student teachers or being available in the center for informal conferences with any of the participants. Many times a principal or teacher would like to explore an idea or problem with someone from the university. However, problems of shuffling a class activity to arrange time to meet with the professor during a visit previously discouraged such interviews.

   If a professor is assigned a work area where he can spend productive times — in between visits to the classroom — the school can encourage professors to be there for informal conferences. It is surprising how many problems can be resolved as a result of an informal talk between the parties over a cup of coffee.

2. **The university supervisor teaches a graduate course in supervision to the cooperating teachers:**

   a. in the school

   b. during normal school hours

   c. for graduate credit

   d. at no cost to the teacher (sometimes)

   e. the professor registers the teacher in the course

   The advantages of these practices are as obvious as the disadvantages of the status quo. There are some specific skills and concepts relative to the training of teachers that exist and should be taught to cooperating teachers.

Failure to do so makes the cooperating teaching experience not only less of an intellectual experience but also probably results in a less effective cooperating teacher. Not only does a course of this type focus on supervision skills, it also provides the university professor with an opportunity to communicate to cooperating teachers new terms or concepts relative to curriculum and instruction that the student teacher probably knows, but which the cooperating teacher probably does not. It is the university's responsibility to be sensitive to the demands on the teacher's time and do everything to facilitate the teacher taking the course: i.e. why make ten teachers drive to the university when the course can be taught where the ten teachers are?

3. **Arrangements are made prior to and after the student teaching experience, for the undergraduate to serve as a teaching assistant.**

   One of the most exciting developments in school organization is the practice of providing the classroom teacher with paraprofessional support. By assuming duties such as collecting milk money, completing forms and helping young children remove boots and coats, teacher aides are providing teachers with more time to teach.

   Teaching assistants help the teacher in a different way. They help the teacher to provide for a more varied curriculum as teaching assistants can be assigned responsibility for group discussions, project work, and tutorial teaching. Many cooperating teachers initially use student teachers as teaching assistants and often schedule themselves to do teaching assistant type duties when the student teacher is given total responsibility for the class. Thus, the cooperating teacher and the teaching team builds into the instructional day the use of student teachers.

   Unfortunately, the teachers or team find themselves in an undesirable situation during the vacation period between university quarters or at the opening or closing of schools. The undergraduate might like to volunteer his services during these times, but in light of rising tuition fees, finds it necessary to use these "vacations" as opportunities to earn extra money. At the Martin

Luther King, Jr. School, each student teacher is offered the opportunity to be employed at a professional salary as a teaching assistant during those times when the university is not in session and the public school is operating.

4. **Video cameras are used as an essential aspect of the supervision.**

   The use of video-tape as an instructional device in teacher training is hardly restricted to micro-teaching. Video-tape feedback — taping a student teacher's lesson to a class and using it as a basis for analysis of effectiveness — presents the profession with a variety of ways to improve student teaching. At King, the video-tape of the student teaching observers dramatically illustrate their particular strengths and weaknesses. Other alternatives made available to student teachers at King include taping their own classes and engaging in self-analysis; and taping sample lessons and forwarding them to school systems in different parts of the country where the student teacher is seeking employment.

5. **Observations are scheduled.**

   Surprise visits are often justified in terms of insuring that student teachers are prepared and that they are seen in a "natural" situation. This would seem to focus the energies of the supervisor on evaluation rather than diagnosis. At King, observation is designed to be diagnostic and informative for we assume that cooperating teachers would inform the supervisor if the student teacher was not prepared. Similarly, a cooperating teacher could provide a great deal of light on the subject of whether or not the student was in a natural situation. Yet, aren't most of the situations in a school "unnatural"? For despite the desire to see "natural situations", too often the naturalness of the visits is such that no evaluation can take place. It is not unusual to see supervisors come prepared to supervise student teachers on the day the class was going to go on a field trip, or was starting their reading tests, or the student teacher was sick, or the cooperating teacher was ill — and the student teacher was teaching subjects for which she had done a minimum of preparation. The "surprise" visit may clearly demonstrate the successful student, but

it seems its lack of structure introduces too many other factors that influence student success — as well as hindering the diagnosis of student weaknesses.

6. **Observations focus on a specific teaching skill.**

Student teachers want to be evaluated. They want to know when they succeed and they say they want to know when they are less than successful. Many of them do not like "Carte Blanche Evaluation" where the supervisor sits in the back of the room with a blank sheet of paper and records any thoughts that come to mind relative to what he sees on his visit. Sometimes it is so blank that supervisors do not even bother to write down their observations. Certainly, one cannot specify how students should respond in every situation, but there are enough specific skills that do exist in teaching to allow supervisors to spell out appropriate behavior and to focus the evaluation on student success in exhibiting such behavior — and telling the student beforehand exactly what those behaviors are! Why conclude the observation by telling the student teacher he failed to reinforce student responses; he over-reinforced student responses; all his questions required were yes-no answers; he seemed to be more interested in conveying his own opinion than in encouraging students to express theirs; or his questions were, for the most part, restricted to the knowledge level.

Therefore, the preparation of student teachers is seen as a process as well as product evaluation. A system is developed whereby the student understands the organizational structure, is gradually introduced into the functions of the team and fully understands the behaviors expected of him.

Responsibilities of Student Teachers. The pre-service program in some instances is almost absorbed into the in-service program but because it principally revolves around the student teacher the assigned tasks are of necessity graduated. On the other hand, because of the nature of the team, student teachers are expected to participate in the decision making. Undergraduates at the pre-student level serve as aids but will sometimes relate to children in small group, short time activities.

The King School initiated a number of policies relative to student teachers to insure that by providing pre-service experience, the children and the faculty would benefit as much as the undergraduate. The following principles dictate the student-teaching experience:

1. There is a distinction between **INSTRUCTIONAL** skills (interacting with children) and **CURRICULUM** skills (selecting instructional resources and strategies).
2. In a multi-unit school, the student teacher "belongs" to the unit—not a teacher.
3. For administrative purposes, the student teacher's evaluator and advisor is the unit leader.
4. The student teacher starts **INSTRUCTING** all day the first day of student teaching.
5. The student teacher has no **CURRICULUM** responsibilities until he has demonstrated mastering of instructional skills.
6. Teaching becomes more difficult as the size of the class increases: student teachers should test-out their skill on one child and gradually build up to larger groups.
7. The presence of a student teacher should result in more teacher-contact with students rather than less i.e. the "cooperating teachers" never stop **teaching.**
8. When any subject builds in team instruction (large group/small group occurring within the same room) the student teacher will be utilized as a certified teacher.

THUS:

WEEK 1: Student teacher teaches one child all day. He teaches all subjects (teacher describes what is to be taught: how it is to be taught).

WEEK 2: Student teacher teaches 1-3 students and teaches all subjects. Teacher decides what is to be taught: how it is to be taught.

WEEK 3: Same as above except the students increase to a small group.

At the end of week three, the Team Supervisor and the Unit Leader (based on interaction with the other supervisor and teachers) decide if the student has sufficient competence to go

on to stage two: **CURRICULUM RESPONSIBILITIES** (writing lesson plans). At that time, it is also decided—the nature of his performance thus far: Satisfactory or Superior.[1]

Plan for Superior Student Teacher: Weeks 4-9. Responsible for 50% of class (when departmentalized or ability grouped). Within the restrictions of the unit, the student teacher is responsible for curriculum decisions. Initially his lesson plans are approved.

Plan for Satisfactory Student Teacher: Weeks 4-7. The student teacher is responsible for 90% of the class when departmentalized or ability grouped. The teacher in charge of the class is responsible for approving his lesson plans and giving him curriculum advice (suggested learning activities). The teacher remains in the room working with one-three children giving compensatory or enrichment experience.

Weeks 8-9: The student teacher is responsible for 50% of the class when departmentalized or ability grouped. Within the restrictions of the unit, the student teacher is responsible for curriculum decisions. His lesson plans do not need approval.

A student who is judged to be satisfactory at the end of the four, five, six, or seven weeks may be evaluated as superior at the end of the experience. It is assumed that this will happen often as student competency improves. Also, it is assumed that at the end of three weeks or later that the evaluation of some students may change; e.g. at the end of week six, a student may now be evaluated superior teacher and his grade reflects this status.[2]

The following is also expected of the student teacher:

1. He will keep a manila folder with a log of his activities. This will communicate at what level of competency the student has within ability and subject matter areas.
2. The evaluation of the technical skills (Reinforcement and Management) done by the television supervisor will be kept in this folder.

1. If a student is evaluated as "Unsatisfactory," his contact with student remains at six or is reduced to none depending on the diagnosis. The Director of Student Teaching and the principal are notified in writing of the **diagnosis and prescription.**

2. A student teacher may be evaluated as: SUPERIOR in high ability reading, and UNSATISFACTORY in social studies and SATISFACTORY in math. Thus, his responsibilities might change depending on what or who he is teaching.

3. Student Self-Evaluations: based on using the television equipment for self-analysis will also be kept in the folder.

4. Statements of "Experiences" will also be recorded there. (Community observations, involvement, or other learning modules.)

5. Lesson Plans with teacher observations will be kept there.

6. Copies of Supervisors and Unit Leaders weekly evaluations will also be kept there.

7. On the first leaf of the manila folder will be recorded the name of the evaluator (Supervisor, Unit Leader, Television/Conference Supervisor), the length of the observation, what was being taught, and the size of the class.

Note: This folder is the student's portfolio. It belongs to the student teacher and may be used by him for any purpose he wishes: self-improvement, historical record or to be used for candidating for a position.

Student-teacher seminars early in the quarter are centered around the problem of teacher preparation of individual learning lab kits. Resources used were a tape in which methods and materials of individualized instruction in elementary schools were described and a demonstration of individualized lab kits already developed at King School by a student aide. Each student teacher prepared an individual learning lab for field testing with students in his unit.

Another seminar dealt with the problem of more creative and efficient development of art experiences within the King curriculum. Resource people from the museum were utilized.

Two other seminars involved the King School Visiting Teacher who led discussions on a variety of problems involving ghetto community and family, teacher-pupil behavior patterns and interaction in an inner city school. Each student teacher planned one family-community visit with the final week of the quarter set aside for community experiences. Students were released from teaching responsibilities to permit as many field experiences as possible. A number of experiences were suggested which included:

1. A one-day field trip with one child. The child and the

undergraduate are not accompanied by other students or student teachers.

2. Attendance at a P.T.A. meeting accompanied by the Unit Leader or Teacher-Trainer.

3. Conduct a two-hour field trip with a small group.

4. Have lunch at the corner store where students have soda pop and candy bar for lunch.

5. Attend a meeting of the Mother's Club. If Mother's Club is agreeable, student teacher will have a "dessert" with the mothers.

6. Spend a few hours in a prowl car traveling with a team of policemen in the inner city. Listen to the squad car radio. Ask questions. If the policemen park and walk the beat, walk with them.

7. Wear old clothes and sit in the waiting room of the Ohio State Employment Office. Listen, observe, talk to some of the people sitting next to you. Read the announcements on the bulletin board.

8. Borrow a portable tape recorder and interview an elderly citizen who has lived in an inner city neighborhood for ten or more years.

9. Compare the prices of the same brands and models of record players, T.V. sets and transistor radios at your local appliance or department store with those on display in a credit store in the inner city.

10. Buy lunch in a black restaurant during noon-time rush when you will be the only white person there.

In conclusion, it is maintained that the multi-unit school represents the most appropriate organizational scheme currently available to meet the multi-dimensional demands which are being made on education today. A structure is created whereby new teachers can be trained, education can be individualized for children in attendance, and a place where citizens from the community can work in concert with university and the public school personnel is maintained. Surely, this is the wave of the future!

APPENDIX

The following appendix provides a check list for the organization of a multi-unit school and a weekly schedule.

CHECKLIST FOR SCHOOLS STARTING A MULTIUNIT PROGRAM*

Included are a number of questions that each school system should answer when starting a Multiunit Elementary School. Although this list is not all-inclusive, it contains many of the essential components necessary for successful operation. It is believed that the greater number of "yes" answers a system has, the better are its chances for success.

1. Has the **Board of Education** made a definite commitment to the program by agreeing to provide:

   A. Adequate staff? Yes..... No.....

   B. Clerical and/or instructional aides? Yes..... No.....

   C. Financial resources for:

      (1) Equipment to allow for Individually Guided Education Yes..... No.....

      (2) Materials to allow for Individually Guided Education Yes..... No.....

      (3) Consultant help when needed Yes..... No.....

      (4) Facilities which will aid rather that hinder the operation of the program Yes..... No.....

      (5) Extra pay for Unit leaders Yes..... No.....

      (6) An extended school year for Unit staff? Yes..... No.....

   D. A member to serve on System-Wide Policy Committee and possibly the Instructional Improvement Committee? Yes..... No.....

*The following checklists are taken from Working Paper No. 21, **Evaluation Procedures for Use With Multi-unit Elementary School Personnel,** by Richard Morrow, Juanita Sorenson and George Glasrud. Published by the University of Wisconsin R & D Center for Cognitive Learning.

2. Has the **Superintendent** made a definite commitment to the program by providing:

   A. A System-Wide Policy Committee for Multiunit schools? Yes..... No.....

   B. Building principals of Multiunit schools who are willing to become involved in new or innovative approaches to the solution of educational problems? Yes..... No.....

   C. Special teachers assigned to the building at a time most advantageous to the Multiunit school? Yes..... No.....

   D. Consultants and supervisors from Central staff to assist Units as needed? Yes..... No.....

   E. An inservice education program for the staff of the Multiunit schools (about five days preschool and about six half days during the year)? Yes..... No.....

   F. An information program to acquaint others with the Multiunit concept:

      (1) Community information program Yes..... No.....

      (2) Parental information program Yes..... No.....

      (3) Student information program Yes..... No.....

      (4) Other staff members Yes..... No.....

3. Has the **building principal** made a definite commitment to the multi-unit concept by:

   A. Organizing an Instruction Improvement Committee? Yes..... No.....

   B. Chairing and meeting with the Instruction Improvement Committee at least once per week during the school day? Yes..... No.....

C. Selecting, with the approval of the Superintendent, unit leaders who have the ability to work with others in solving educational problems? Yes..... No.....

D. Organizing the school day into large blocks of time to allow for flexibility? Yes..... No.....

E. Organizing the school day to allow for at least one meeting per week of each unit during the school day Yes..... No.....

F. Frequently attending unit meetings to assist unit leaders and staff in their planning activities? Yes..... No.....

G. Arranging in-service programs with the Superintendent? Yes..... No.....

H. Assuming responsibility for leadership of the instructional program? Yes..... No.....

I. Assigning unit leaders to teach not more than 3/4 time? Yes..... No.....

J. Developing a training program for teacher aides? Yes..... No.....

K. Assisting staff in locating and obtaining instructional materials? Yes..... No.....

L. Coordinating the activities of the central office consultants and others in connection with instructional improvement, research and development, and teacher education? Yes..... No.....

4. Are **unit leaders** sufficiently informed about and committed to the multi-unit concept to:

A. Serve as a participating member of the Instructional Improvement Committee? Yes..... No.....

B. Chair unit meetings and organize agenda? Yes..... No.....

C. Plan with other members of the unit and/or central staff an individually guided education program for each child? Yes..... No.....

D. Coordinate the assessment of the characteristics of each child in the unit to place them in appropriate activities? Yes..... No.....

E. Keep abreast of advances in subject matter knowledge, instructional materials, research results, and other components of individually guided education? Yes..... No.....

F. Provide leadership in developing behavioral objectives for each area of the curriculum? Yes..... No.....

G. Provide leadership in developing instructional objectives for each child in the unit? Yes..... No.....

H. Teach 1/2 to 3/4 time including demonstration lessons using new materials, techniques, etc? Yes..... No.....

I. Provide teaching interns with a satisfactory clinical experience? Yes..... No.....

J. Work with the principal and others to develop an adequate evaluation system? Yes..... No.....

K. Establish and maintain good home-school-community relations? Yes..... No.....

5. Are **staff members** sufficiently informed about and committed to the multi-unit concept to:

A. Work together as a compatible team in which each staff member works daily with most or all of the children of the unit? Yes..... No.....

B. Assess and evaluate each child for the necessary grouping and regrouping for the individual needs? Yes..... No.....

C. Work together to improve instruction by individualizing instruction and developing nongraded programs? Yes..... No.....

D. Work together to develop the behavioral objectives for each area of the curriculum? Yes..... No.....

E. Work together to develop instructional objectives for each child? Yes..... No.....

F. Develop specialized materials needed to carry out a program of individualization? Yes..... No.....

G. Reorganize their teaching techniques to utilize advantages of large groups, class size groups, small groups, tutorial groups and independent study programs for improved instruction for each child? Yes..... No.....

H. Provide teaching interns with a satisfactory clinical experience? Yes..... No.....

I. Utilize aides and/or instructional secretaries to the best advantage? Yes..... No.....

J. Work with the principal and others to develop an adequate evaluation system? Yes..... No.....

K. Establish and maintain good home-school-community relations? Yes..... No.....

6. To the **planners** of a Multiunit Elementary School: Have you attended the following items?

A. Established the dates of your pre-school workshop Yes..... No.....

B. Established your preschool work-shop agenda Yes..... No.....

C. Established the dates of your during-school workshops Yes..... No.....

D. Established the dates of your post-school workshop Yes..... No.....

E. Determined when, where, how long, and how often Units will meet Yes..... No.....

F. Determined when, where, how long, and how often the Instructional Improvement Committee will meet Yes..... No.....

G. Determined when, where, how long, and how often the System-Wide Policy Committee will meet Yes..... No.....

H. Planned programs to improve the competency of principals, Unit leaders, and staff in Unit planning and teaching activities Yes..... No.....

I. Planned programs to improve the competency of Unit leaders and staff in the assessment of children's characteristics and placement of each child in appropriate activities Yes..... No.....

J. Established policies concerning visitors to your school Yes..... No.....

K. Assigned staff, children, and spaces to each unit Yes..... No.....

L. Determined the extent to which usual homerooms will be continued during the first few weeks of school Yes..... No.....

M. Selected one or more areas of the curriculum for concentrated effort Yes..... No.....

N. Provided adequate materials to develop a program of Individually Guided Education in one or more areas of the curriculum? Yes..... No.....

SAMPLE SCHEDULES

Monday: February 2

9:30-10:30 a.m. Preparation of "UNDERSTANDING OUR NEIGHBORHOOD" unit: Grade Two, by Dr. Ahern.

10:30-11:30 a.m. Presentation of "IMPORTANT BLACK PEOPLE IN OUR COMMUNITY" unit; Grade Three (Mrs. Penn), by Dr. Ahern.

2:00-3:00 p.m. Preparation of Social Studies Modules by the Grade Six teachers and Dr. Ahern.

Tuesday: February 3

8:30-9:30 a.m. Preparation of Fourth Grade Social Studies unit, "OHIO AND MY WORLD," by Dr. Ahern.

Wednesday, February 4

8:30-10:30 a.m. Micro-Teaching Supervision by Dr. Ahern.

10:30-12:30 p.m. Preparation of Grade Three Social Studies Unit by the teachers of unit three (Mrs. Bacon) and Dr. Ahern.

2:00 p.m. Steering Committee Meeting; Room 238.

Friday: February 6

Conference on Non-Gradedness

8:30 Orientation: Mr. Lehrer

9:00 "SCHOOLS WITHOUT FAILURE": Dr. Richard Hersh

*Impact on Public Schools of Teachers Trained in "Graded" Universities

*Research on Non-graded Schools

*Teacher Strategies to Eliminate Failure

*Interaction with Staff

10:00 Coffee Break

10:15 Discussion Groups of 7

Discussion Leaders: Mr. Lehrer, Mr. Faison, Mr. Labay, Mr. Wickes, Mr. Wysong, Mr. Ahern.

Task: "What Can Schools do to Eliminate Failure"

11:15 Reports from Discussion Groups and Staff Reactions

12:00-1:00 LUNCH

1:15 "Non-graded School: An Extension of the Multi-Unit School," Dr. Richard Hersh

2:00 Examples of Non-graded Organizations: Dr. Ahern.

2:30 "Where Do We Go From Here:" Staff suggestions for Saturday's Program

Saturday: February 7

8:30-3:30 Conference on Non-Gradedness, Continuation of Friday's Program.

Monday: February 9

9:30-10:30 a.m. Preparation of "UNDERSTANDING OUR NEIGHBORHOOD" unit: Grade Two, by Dr. Ahern.

10:30-11:30 a.m. Presentation of "IMPORTANT BLACK PEOPLE IN OUR COMMUNITY" unit: Grade Three (Mrs. Penn), by Dr. Ahern.

2:00-3:00 p.m. Preparation of Social Studies Modules by the Grade Six teachers and Dr. Ahern.

Tuesday: February 10

8:30-9:30 a.m. Preparation of Fourth Grade Social Studies unit, "OHIO AND MY WORLD;" by Dr. Ahern.

Wednesday: February 11

8:30-10:30 a.m. Micro-Teaching Supervision by Dr. Ahern.

10:30-12:30 p.m. Preparation of Grade Three Social Studies Unit by the Teachers of Unit three (Mrs. Bacon) and Dr. Ahern.

2:00 p.m. Steering Committee Meeting; Room 238.

Monday: February 16

9:30-10:30 a.m. Preparation of "UNDERSTANDING OUR NEIGHBORHOOD" unit: Grade Two, by Dr. Ahern.

10:30-11:30 a.m. Presentation of "IMPORTANT BLACK PEOPLE IN OUR COMMUNITY" unit; Grade Three (Mrs. Penn), by Dr. Ahern.

2:00-3:00 p.m. Preparation of Social Studies Modules by the Grade Six teachers and Dr. Ahern.

Tuesday: February 17

8:30-9:30 a.m. Preparation of Fourth Grade Social Studies unit, "OHIO AND MY WORLD"; by Dr. Ahern.

Wednesday: February 18

8:30-10:30 a.m. Micro-Teaching Supervision by Dr. Ahern.

10:30-12:30 p.m. Preparation of Grade Three Social Studies Unit by the teachers of unit three (Mrs. Bacon) and Dr. Ahern.

2:00 p.m. Steering Committee Meeting; Room 238.

Monday: February 23

9:30-10:30 a.m. Preparation of "UNDERSTANDING OUR NEIGHBORHOOD" unit: Grade Two, by Dr. Ahern.

10:30-11:30 a.m. Presentation of "IMPORTANT BLACK PEOPLE IN OUR COMMUNITY" unit; Grade Three (Mrs. Penn) by Dr. Ahern.

2:00-3:00 p.m. Preparation of Social Studies Modules by the Grade Six Teachers and Dr. Ahern.

Tuesday: February 24

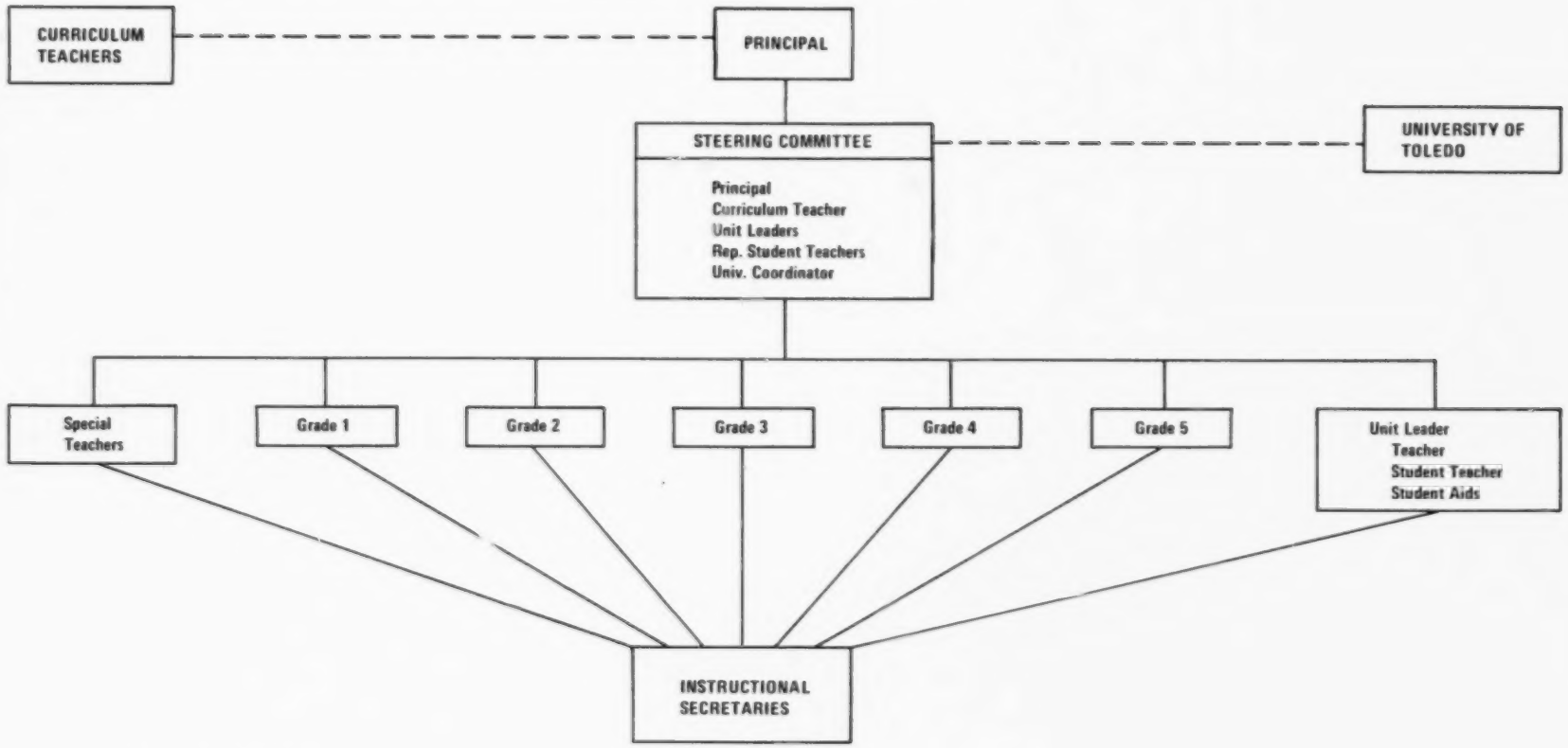
8:30-9:30 a.m. Preparation of Fourth Grade Social Studies unit, "OHIO AND MY WORLD"; by Dr. Ahern.

Wednesday: February 25

8:30-10:30 a.m. Micro-Teaching Supervision by Dr. Ahern.

10:30-12:30 p.m. Preparation of Grade Three Social Studies Unit by the teachers of unit three (Mrs. Bacon) and Dr. Ahern.

FIGURE 9–ORGANIZATIONAL CHART OF A MULTI-UNIT SCHOOL



e.g. Grade 1- one team leader
3 teachers
1 student teacher
3 student aids

* Primary units also have Mothers Aids
** Smallest unit has 2 teachers, largest has 5 certified teachers

BIBLIOGRAPHY

Books and Pamphlets

Abington Conference, 1967. **New Directions in Individualizing Instruction.** Abington, Pa., 1968.

American Association of School Administrators. **A Climate For Individuality.** Washington: NEA, 1965.

Association For Supervision and Curriculum Development. **Individualizing Instruction.**

Bair, Medill and Woodward, Richard G. **Team Teaching in Action.** Boston: Houghton Mifflin, 1964.

Chamberlin, Lesslie J. **Team Teaching: Organization and Administration.** Columbus, Ohio: Merrill, 1969.

Darrow, Helen F. and Howes, Virgil M. **Approaches to Individualized Reading.** New York: Appleton-Century-Crofts, 1960.

Darrow, Helen F. and Allen, R. V. **Independent Activities for Creative Learning.** New York: Columbia University, Teachers College Press, 1961.

Davis, Harold S. **How to Organize an Effective Team Teaching Program.** Englewood Cliffs, N. J.: Prentice-Hall, 1966.

DiPego, Gerald. **Unit Operation and Roles.** Kettering: Institute for Development of Educational Activities, 1970.

Education U.S.A. **Individually Prescribed Instruction.** Washington: Education U.S.A., 1201 16th Street NW, 20036.

Esbensen, Thorwald. **Working with Individualized Instruction; the Duluth Experience.** Palo Alto, Calif.: Fearon, 1968.

Experiences in Team Teaching. Madison: Wisconsin Improvement Program, University of Wisconsin, 1963.

Gleason, Gerald T., ed. **The Theory and Nature of Independent Learning.** Scranton, Pa.: International Textbook Co., 1967.

Hanslovsky, Glenda, et al. **Why Team Teaching?** Columbus, Ohio: Merrill, 1969.

Klausmeier, Herbert J., Goodwin, William L., Prasch, John, and Goodson, Max R. **Project Models: Maximizing Opportunities for Development and Experimentation in Learning in the Schools,** Occasional Paper No. 3. Madison: Wisconsin Research and Development Center for Cognitive Learning, 1966.

Klausmeier, Herbert J., Cook, Doris M., Tagatz, Glenn E. and Wardrop, James L. **Project Models: A Facilitative Environment for Increasing Efficiency of Pupil Learning and for Conducting Educational Research and Development.** Working Paper No. 5. Madison: Wisconsin Research and Development Center for Cognitive Learning, 1967.

Klausmeier, Herbert J., Morrow, Richard G., Walter, James E., and Wey, Russell, S. **Individually Guided Education in the Multiunit Elementary School: Guidelines for Implementation.** Madison: Wisconsin Department of Public Instruction, 1968.

Lee, Dorris M. **Diagnostic Teaching.** Washington: NEA, 1966.

Lobb, M. Delbert. **Practical Aspects of Team Teaching.** San Francisco: Fearon, 1964.

Miel, Alice. **Individualizing Reading Practices.** New York: Columbia University, Teachers College Press, 1958.

Morrow, Richard, Sorenson, Juanita and Glasrud, George. **Evaluation Procedures for Use with Multiunit Elementary School Personnel.** Working Paper No. 21. Madison: Wisconsin Research and Development Center for Cognitive Learning, 1969.

National Society for the Study of Education. **Individualizing Instruction.** 61st Yearbook, Part I. Chicago: University of Chicago Press, 1962.

Petrequin, Gaynor. **Individualizing Learning Through Modular-Flexible Programming.** New York: McGraw-Hill, 1968.

Peterson, Carl H. **Effective Team Teaching: The Easton Area High School Program.** West Nyack, N. Y.: Parker, 1966.

Polos, Nicholas C. **The Dynamics of Team Teaching.** Dubuque, Iowa: William C. Brown Co., 1965.

Profiles of Significant Schools: Schools for Team Teaching. New York: Educational Facilities Laboratories, 1960.

Shaplin, Judson T. and Olds, Henry F., editors. **Team Teaching.** New York: Harper & Row, 1964.

Thomas, George I. and Crescimbeni, Joseph. **Individualizing Instruction in the Elementary School.** New York: Random House, 1967.

Veatch, Jeanette. **Individualizing Your Reading Program.** New York: Putnam, 1959.

Magazine Articles

Allen, Dwight and Hawkes, Glenn W. "Reconstruction of Teacher Education and Professional Growth Programs," **Phi Delta Kappan,** September, 1970, pp. 4-12.

Anderson, Robert H. and Mitchell, Donald P. "Team Teaching, New Learning Concepts Demand Changes in School Plant Design," **Nation's Schools,** June, 1960, pp. 75-82.

Arnold, F. "Individualized Reading and the Language Arts," **Elementary English,** March, 1962, pp. 269-273.

Beck, Isabel L. and Bolvin, John O. "A Model for Non-Gradedness: the Reading Program for Individually Prescribed Instruction," **Elementary English,** February, 1969, pp. 130-135.

Bergman, Floyd L. "Individualized Reading and the Language Arts," **English Journal,** March, 1962, pp. 192-196.

Blount, Nathan S. "Fructify the Folding Doors: Team Teaching Re-examined," **English Journal,** March, 1964, pp. 177-179+.

Bodine, Ivan, Hollister, E. M., and Sackett, Harry. "A Contribution to Team Teaching," **NASSP Bulletin,** April, 1962, pp. 111-117.

Borg, Walter R. and Brite, L. R. "Teacher's Perceptions of Team Teaching," **California Journal of Educational Research,** March, 1967, pp. 71-81+.

Botts, Robert E. "The Climate for Individualized Instruction in the Classroom," **Journal of Secondary Education,** November, 1969, pp. 309-314.

Brownell, John A. and Taylor, Harris A. "Theoretical Perspectives For Teaching Teams," **Phi Delta Kappan,** January, 1962, pp. 150-157.

Cleaning House, March, 1969, pp. 401-410. (Three Articles)

Cuony, Edward R. "Team Teaching in Junior High School," **NASSP Bulletin,** October, 1963, pp. 67-72.

Dean, Stuart E. "Team Teaching: A Review," **School Life,** September, 1961, pp. 5-8.

"Does Team Teaching Work in Kindergarten?" **Grade Teacher,** March, 1968, pp. 157-160.

Drummond, Harold D. "Team Teaching: An Assessment," **Educational Leadership,** December, 1961, pp. 160-165.

Education, February, 1965, pp. 323-353. (Six Articles)

Fea, Henry R. "Team Teaching: Psychological Implications," **Clearing House,** November, 1968, pp. 177-179.

Fischer, Barbara B. and Fischer, Louis. "Toward Individualized Learning," **Elementary School Journal,** March, 1969, pp. 298-303.

Frazier, Alexander. "Individualized Instruction," **Educational Leadership,** April, 1968, pp. 616-624.

Glatthorn, Allan A. and Ferderbar, Joseph E. "Independent Study—For All Students," **Phi Delta Kappan,** March, 1966, pp. 379-382.

Groff, Patrick J. "Helping Teachers Begin Individualized Reading," **National Elementary Principal,** February, 1964, pp. 47-50.

Heller, Melvin P. and Belford, Elizabeth. "Hierarchy in Team Teaching," **NASSP Bulletin,** December, 1962, pp. 59-64.

Hemeyer, Will and McGrew, Jean B. "Big Ideas for Big Classes," **School Review,** Autumn, 1960, pp. 308-317.

"How to Introduce Team Teaching in Your Elementary Schools," **School Management,** November, 1961, pp. 58-62+.

Jarvis, Galen M. and Fleming, Roy C. "Team Teaching as Sixth-Graders See It," **Elementary School Journal,** October, 1965, pp. 35-39.

Jasik, Marilyn. "Breaking Barriers by Individualizing," **Childhood Education,** October, 1968, pp. 65-74.

King, Arthur R. "Planning For Team Teaching: The Human Considerations," **Journal of Secondary Education,** October, 1962, pp. 362-367.

Klausmeier, Herbert J. and Wiersma, William. "Team Teaching and Achievement," **Education,** December, 1965, pp. 238-242.

Korb, Sister Mary Victor. "Positive and Negative Factors in Team Teaching," **Mathematics Teacher,** January, 1968, pp. 50-53.

McLane, Mary, et al. "Team Teaching and Objective Evaluation," **Clearing House,** November, 1969, pp. 174-178.

Meyer, James A. "Group Grope: Problems of Team Teaching," **Clearing House,** February, 1968, pp. 362-364.

Michael, Lloyd S. "Team Teaching," **NASSP Bulletin,** May, 1963, pp. 36-63.

Moreland, Ernest F. "Audiovisual Specialists in Team Teaching Programs," **NASSP Bulletin,** January, 1962. (Whole Issue)

National Elementary Principal, January, 1965. (Whole Issue)

Olivero, James L. "The Meaning and Application of Differentiated Staffing in Teaching," **Phi Delta Kappan,** September, 1970, pp. 36-40.

Shawyer, David E. "Team Teaching: How Successful Is It?" **Clearing House,** September, 1968, pp. 21-26.

Sleight, Ralph H. "Administrative Problems as a Result of Flexible Scheduling and Team Teaching," **Journal of Secondary Education,** December, 1967, pp. 358-362.

Stevens, Martin and Elkins, William R. "Designs for Team Teaching in English," **English Journal,** March, 1964, pp. 170-174.

Taormina, Francis R. "Team Teaching in the Middle School," **New York State Education,** April, 1969, pp. 22+.

Thomas, John I. "Individualizing Instruction in the Social Studies," **Social Studies,** February, 1969, pp. 71-76.

"Toward Improved School Organization: Team Teaching," **National Elementary Principal,** December, 1961, pp. 115-127.

Veatch, Jeannette. "Improving Independent Study," **Childhood Education,** January 1967, pp. 284-288.

Weaver, J. Fred. "Differentiated Instruction and School-Class Organization for Mathematical Learning Within the Elementary Grades," **Arithmetic Teacher,** October, 1966, pp. 495-506.

Wolfson, Bernice J. "Individualization of Instruction," **Journal of the Reading Specialist,** December, 1965, pp. 45-53.

. "Pupil and Teacher Roles in Individualized Instruction," **Elementary School Journal,** April, 1968, pp. 357-366.

Woods, Shirley F. and Stunkel, Gerald H. "Methods Used to Present a Humanities Course by a Teaching Team," **Journal of Secondary Education,** April, 1964, pp. 166-171.

Bibliography on Teacher Education Projects*

Allen, Dwight W. and Robert A. Mackin. "Toward '76: A Revolution in Teacher Education," **Phi Delta Kappan,** May, 1970, pp. 485-488.

Burdin, Joel L. and Kaliopee Lanzillotti, eds. **A Reader's Guide to the Comprehensive Models for Preparing Elementary Teachers,** (Washington, D. C.: ERIC Clearinghouse on Teacher Education and American Association of Colleges for Teacher Education, 1969).

Educational Comment/1969, Contexts for Teacher Education. Richard Saxe, ed., (The University of Toledo, 1969).

Florida State University, **Summary of a Model for the Preparation of Elementary School Teachers.** (U.S. Office of Education: October, 1968).

Journal of Research and Development in Education, Feasibility. Vol. 3, Spring, (College of Education, University of Georgia, 1970).

, **Teacher Education Models,** Vol. 2, Spring, (College of Education, University of Georgia, 1969).

Joyce, Bruce R. **Variations on a Systems Theme: Methodologies for Teacher Education.** (Teachers College, Columbia University).

Michigan State University. **Behavioral Science Elementary Teacher Education Program, Final Report.** V. W. Robert Houston, director, (U.S. Office of Education: October, 1968).

, **Summary of the Behavioral Science Elementary Teacher Education Program.** (U.S. Office of Education: October, 1968).

Northwest Regional Education Laboratory: A Competency-Based, Field-Centered Systems Approach to Elementary Education. H. Del Schalock and James R. Hale, eds. (U.S. Office of Education: October, 1968).

, **Summary of A Competency-Based, Field-Centered Systems Approach to Elementary Education.** (October, 1968).

*Compiled by Mrs. Margaret Ishler

Olsen, Hans C. "Implications for Social Studies Teachers from the Model Teachers Education Programs," **Social Education,** March, 1970, 326-328.

Syracuse University. **Summary of the Specifications for a Comprehensive Undergraduate and Inservice Teacher Education Program for Elementary Teachers.** William Benjamin and others, authors. (U.S. Office of Education: October, 1968).

Teachers College, Columbia University. **The Teacher-Innovator: A Program to Prepare Teachers.** Bruce R. Joyce, author. (U.S. Office of Education: October, 1968).

. **Summary of the Teacher-Innovator: A Program to Prepare Teachers.** (U.S. Office of Education: October, 1968).

University of Georgia. **Georgia Educational Model Specifications for the Preparation of Elementary Teachers, Final Report.** Charles E. Johnson, Gilbert F. Shearron, and A. John Stauffer, directors. (U.S. Office of Education: October, 1968).

. **Summary of the Georgia Educational Model Specifications for the Preparation of Elementary Teachers.** (U.S. Office of Education: October, 1968).

University of Massachusetts. **Model Elementary Teacher Education Program, Final Report.** Dwight W. Allen and James M. Cooper, directors. (U.S. Office of Education: October, 1968).

. **Summary of the Model Elementary Teacher Education Program.** (U.S. Office of Education: October, 1968).

University of Pittsburgh. **Summary of a Model of Teacher Training for the Individualization of Instruction.** Horton C. Southworth, director. (U.S. Office of Education: October, 1968).

University of Toledo. **Educational Specifications for a Comprehensive Elementary Teacher Education Program, Vol. II.** A Consortium of the State Universities of Ohio, George E. Dickson, director. (U.S. Office of Education: October, 1968).

. **Summary of the Educational Specifications for a Comprehensive Elementary Teacher Education Program.** (U.S. Office of Education: October, 1968).

University of Wisconsin. **Wisconsin Elementary Teacher Education Project.** Vol. I. John M. Kean, editor. (University of Wisconsin: 1968).

. **Summary Report of the Wisconsin Elementary Teacher Education Project.** (University of Wisconsin: February, 1969).